

THE EFFECTS OF MEMBER ORIENTATION  
UPON THE DEVELOPMENT OF  
GROUP STRUCTURE

By  
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To my parents

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## CHAPTER I

### INTRODUCTION

#### A. Statement of the Problem

The present investigation was designed to study the effects of the motivation of group members upon the subsequent development of group structure and functioning in small problem-solving groups. Most of the research on small groups has been performed with collections of individuals who are previously unacquainted, who meet for less than an hour and are then disbanded. In only a few instances has attention been given to changes in group processes that occur over a series of several meetings. While theorizing has been comparatively prolific, there has been until recently little experimentation directed toward discovering whether systematic changes in group structure can be detected and measured in any way. The study of group structure is vital to a rigorous development of group therapeutic approaches, as well as to the planning of groups constituted for special purposes.

Most group psychologists admit the importance of motivation as a factor in determining the nature of the processes which go on in the group. Yet little work has been done to make it possible to study the operation of

motivational processes in the group situation, especially with respect to changes that occur over time. There has been increasing recognition that the outcomes of a group's behavior are not merely determined by the intellectual processes, i.e., the ability to solve problems. Clearly, the individual possesses personal needs and characteristics that partly determine his behavior in a group situation. Each person, because of his unique needs and interests, can be expected to be more sensitive to certain aspects of a group's operation than to others.

Since there is an almost infinitely large number of attributes available for characterizing an individual, it is difficult a priori to decide just what classification of personality characteristics is most useful in studying small groups. However, when individuals are observed performing in groups, one tends to notice what might be referred to as "group-relevant" characteristics, such as approach or commitment to the task, ability to get along with others, leadership ability, etc. Individuals seem to be oriented more toward some of these aspects of group functioning than to others. Thus, the concept of "orientation" seems to offer a fruitful conceptual approach to group member motivation and is the one applied in the present study. By "orientation" is meant each individual's unique set of predispositions for perceiving and responding in characteristic ways and for expressing certain affect in group situations. These predispositions lead him to exhibit a reasonably stable behavioral pattern that involves

interacting with others in developing and maintaining a particular pattern of interpersonal behavior.

The problem under investigation may be restated as the study of the relationship between certain "orientations" persons have in group situations and the patterning of the interpersonal behavior that arises out of their interaction with other group members. Thus, if the members of two groups perceive the group differently, it is expected that distinctive structures should appear. The concept of group structure may be further differentiated in terms of the patterning and kinds of interaction that takes place and the style of informal leadership characteristic of the group. The style of informal leadership is defined in terms of role structure. By structure is meant the patterning of the interpersonal behavior in the group. For purposes of the point of view being developed, role structure refers to the expectations relative to the performance of each group member.

In the next section an attempt will be made to define more fully the terms orientation and role structure as used in the present study. Relevant research will be cited to support the concepts used.

## B. Theoretical Background

### 1. Orientation of Group Members

There is evidence in the literature that various perceptions of social situations result in different group structures. From these studies there may be seen at least

three sets of conditions that contribute to these differing perceptions of social situations: the physical and social environment, instructions and experimental procedures, and personality characteristics.

#### Physical and social environment

The effect of the physical environment on group structure may be seen in a study by Lipset, Trow, and Coleman (1956). These authors report that night workers are more deeply involved in the printers' community than day workers. They demonstrate that the greater the proportion of a printer's career spent on night work, the higher his score on a "social relations index." Day workers were subject to pulls from mass entertainment, neighborhood organizations, and nonprinter friends. When the day workers went home they were expected to conform to the pattern of activities of their families. Night workers' schedules were so unlike that of their families' that they were not expected to conform. Compared to the day shift, the pace of the night work was more relaxed, and supervision less strict. This greater freedom of the night workers tended to facilitate socializing on the job.

In his study of a gypsum plant, Gouldner (1954) found that miners, as contrasted with surface men, enjoyed greater social cohesion and more extensive social relationships. To the men on the surface the conveyer dictated the pace and position of the workers. Miners, however, worked in larger groups and in much closer association. Gouldner observed no instances of workers helping one another on the surface, but,

if a miner were injured, others would come to his aid and take up collections for him, even from miners on other shifts. Unprompted group action, such as workers walking off their jobs if a miner were hurt by falling rock, was not uncommon. Gouldner concludes: "In the main, two factors were closely connected with the greater cohesion among miners: (1) The peculiar work and spatial arrangements in the mine and factory; (2) The more hazardous working conditions of the mine" (p. 136).

The research on human relations by the Survey Research Center of the University of Michigan, reported by Kahn and Katz (1960), indicates the influence of the social environment on the behavior of employees in industry. Kahn and Katz abstracted four classes of variables which are consistently related to the productivity of the group: supervisor ability to play a differentiated role, closeness of supervision, the quality of supportiveness or employee-centered orientation, and the amount of group cohesiveness. They suggest that the effect of supervisory behavior on motivation may be basic to understanding productivity differences between groups.

Following Kahn and Katz, Marcus (1960) studied the effect of employee-orientation of the supervisor on the behavior of social workers in a large public welfare agency. Not only did he expect the groups to differ in the type of interaction displayed, but he also predicted that different types of informal leaders would emerge in groups with different kinds of supervision. If the supervisor supplies

the social-emotional qualities or is "employee-centered," then the group should respond with higher orientation toward the task; the group member who best approximates this goal will become the leader. On the other hand, if the supervisor is production- or task-oriented, then the group will become more oriented toward the social-emotional aspects of group life. The leader who emerges in this case will be the one who is the most supportive in this area. Both predictions were confirmed.

All of these studies tend to support the general argument that environment becomes a crucial determinant of the structure of group relations.

#### Instructions and experimental procedures

That differential instructions or experimental procedures may induce different orientations or sets toward the group is shown by a second group of studies. Lewis (1944) used the twofold classification of task-orientation and ego-orientation in her research on the recall of interrupted tasks. Ego-orientation is defined as being motivated primarily for self-enhancement or self-reward, to the exclusion of all other demands either from the objective environment or from other persons. A person who is task-oriented responds to the objective situation "for its own sake," i.e., completing the task is the source of satisfaction. It was found that a greater recall of interrupted tasks depends on the existence of task-orientation. When a person is ego-oriented, recall favors the completed tasks.

In their study of social conformity, Thibaut and

Strickland (1956) distinguish between two psychological sets that are taken by persons in evaluating the judgments, perceptions or attitudes that are communicated to them by other persons. One of these, called group set, describe the individual who is concerned with achieving or maintaining membership with other individuals whose attitudes are being communicated to him. A person is expected to adopt this set when he is motivated to gain membership in the group, threatened with loss of membership, and when he is informed by the group that integrative behavior is necessary for group survival. On the other hand, in a task set, the person perceives other group members as "mediators of fact," or as instruments or standards to test his own judgments. In this case he is concerned, not with maintaining a social relationship, but with achieving cognitive clarity about the environment.

One series of experimental studies has demonstrated the influence of motivation on the way a person interprets the interpersonal relations assumed to be present in a series of pictures depicting various social situations. McClelland et al. (1949) have developed what appears to be a valid method for measuring achievement motivation by means of the content analysis of brief imaginative stories composed in response to the Thematic Apperception Test. Achievement motivation, similar to what has been called task-orientation, was aroused by an experience of failure prior to responding to the TAT pictures. It was found that those who were scored as having high need for achievement showed a

significant increase in general achievement imagery, achievement-related deprivation themes, successful instrumental acts, and anticipatory goal responses.

Similarly, Shipley and Veroff (1952) and Atkinson et al. (1954) have reported the effect of the affiliation motive on shifts in perception and in the thematic content of stories. The affiliation motive is parallel to what has been called group set or interaction orientation. The cues used to arouse this motive were describing others on personality traits, being described by others, and choosing personal friends. Behavioral sequences dealing with positive affective relationships with other persons occurred more frequently in the imaginative stories of the group in which the affiliation motive had been aroused. The control group was composed of subjects who performed a ten-minute anagrams task following a task-oriented-type instruction. The Ss above the median in need for affiliation score were described as approval-seeking by other group members significantly more frequently than Ss below the median score in the need for affiliation.

These studies provide evidence that different sets, established through instructions or experimental procedures, influence the way a person views interpersonal behavior.

#### Personality characteristics

A third set of studies deals with orientation to group situations as a function of personality patterns. Perhaps one of the first attempts to investigate the effect of member motivation upon group development was made in the

Human Dynamics Laboratory of the University of Chicago and at the National Training Laboratory in Group Development in Bethel, Maine. Stock and Thelen (1958) summarize the results of this research in a recent publication. The two concepts of emotional culture and valency are fundamental in this theoretical approach. The term group culture refers to the situation in the group as a whole. The concept of valency refers to the relation of the individual and the group culture. Valency is defined as an inherent property of the individual that accounts for the nature of his participation in the emotional aspects of group life. These emotional aspects of group life, called the emotionality culture, have been classified into three basic categories according to the characteristic kind of affect expressed: pairing, dependency, and fight-flight. A sentence completion test known as "The Reactions to Group Situations Test" (RGST) was developed for identifying the valency patterns of individuals. An analysis of the test protocol provides information about the individual's typical affective response to group situations. The RGST has been applied mainly to training groups designed to help members improve their understanding of group operation and of their own feelings and behaviors in group situations.

Wolman (1956), in his study of the situational factors in leadership, took as his starting point the emphasis on perceptual factors in group situations. He states that the total situation as such will not account for leadership choice. It is the perception of the situation which is the

decisive factor in the making of leaders. He suggests a threefold division of groups based on the goals of the individual members. In the first class are those who join groups having the satisfaction of their own needs in mind. These are called "Instrumental Groups." In the second place, persons join groups with the basic need for mutual acceptance. Hence the name "Mutual Acceptance Groups." Still others join groups for the purpose of serving a goal outside themselves. These are called "Vectorial Groups" because they move in the direction of a common ideal.

From this assortment of studies it is possible to abstract three basic kinds of orientation. These include self-orientation, interaction-orientation, and task-orientation. Bass (1961) has done some extensive work on defining and measuring these three kinds of orientations. He describes self-oriented persons as those who are attracted to groups because of the expectation of obtaining personal rewards and satisfactions regardless of the task or interaction effectiveness of the group. Fouriezos, Hutt, and Guetzkow (1950) centered attention on self-oriented behavior, showing that it can be reliably assessed by observers of discussion groups. Dependent behavior, succorant behavior, status-seeking, and domination attempts characterized self-orientation in discussion.

Interaction-oriented persons are described by Bass as gaining their basic satisfactions from the interpersonal relationships in the group. They seem to be less concerned about getting the task done, and more concerned with forming

friendships, sharing with others, and providing personal security. They wish to avoid any behavior that would bring disharmony to the group.

Task-oriented group members are described as being attracted to the group by the expectation of task achievement and reward. They are concerned about getting the job done and tend to be persistent in overcoming any barriers in the solution of the external problem.

These, then, are some of the theoretical considerations that have been followed in defining and categorizing member motivation in group situations. It is a common observation that the patterning of interpersonal behavior changes over time. The evidence reviewed above implies that structural development in a new group does not depend solely upon changes inevitably linked with time. These changes may also depend upon conditions which may be different from the very first, either in the original composition of the group or in the situation which they face. The present investigation is primarily concerned with the changes that occur because of the composition of the group.

## 2. Origin and Nature of Group Structure

One important aspect of the social organization of groups which endures over time is the fact that there develops a patterning of relationships, that is, individual members of the group can be located in relation to other members according to some criterion of placement. There are several studies which suggest that differential structure is

perceived almost immediately by the members of a newly created group. Barker (1942) has demonstrated that a group of strangers, after a few moments of being acquainted, exhibits a high degree of unanimity, not only in describing each other's behavior and appearance, but also in choosing members for seatmates. Further, expressions of choice are highly related to descriptions of behavior and appearance. Suchman (1956) found that members of small experimental groups, after thirty minutes of interaction in the performance of a task, were most accurate in estimating the expressed feelings of those other members toward whom they reacted favorably. Taguiri, Blake, and Bruner (1953) also report that the members of experimental groups are able to estimate each other's feelings with a higher degree of accuracy than expected by chance.

Much has been written about the reasons that groups become structured, and we shall not attempt to review all of this literature. /It will be useful, however, to note that at least three kinds of factors tend to produce stable differentiations within groups. The first set stems from the characteristic interaction patterns of individuals, the second arises from the different abilities and motivations of different individuals, and the third derives from the requirements for efficient group performance. /

Homans (1950), in his classic analysis of the human group, shows that variance between members in the initiation of interaction is the basic condition which underlies the emergence of differentiated roles. He hypothesized that

"a person of a higher social rank than another originates interaction for him." Homans also found that the higher a person's social rank, the wider will be his range of interactions.

Jennings (1950) shows that individuals differ not only in the number of persons they characteristically choose as interaction partners (emotional expansiveness) but also in the number they contact as interaction partners (social expansiveness). It appears that the capacity of the individual to maintain choice relationships with other persons is a highly stable characteristic. Although a group may present equal opportunities for interaction to each member, the opportunity is not utilized equally by the members. They differ not only in the number of persons with whom they interact but also in the number of members with whom they can initiate and accomodate reciprocal choice relationships. / Borgatta and Bales (1953) also discovered that each individual in a four-person group appeared to exhibit an upper boundary which represented the limits of his capacity to initiate interaction no matter how much opportunity he had to participate.

Bales (1950) describes the process of role differentiation as emerging from the kind of interaction characteristic of each group member. Social structure, according to this viewpoint, can be understood primarily as a system of solutions to the functional problems of interaction that become institutionalized in order to reduce the tensions due to the unpredictability in the actions of the

group members.

On the basis of such a theory, Bales and Strodtbeck (1951) have presented a method for testing the existence of differentiated phases in group development. Briefly stated, the phase hypothesis predicts that groups tend to move in their interaction from a relative emphasis upon problems of orientation, to problems of evaluation, subsequently to problems of control, and that simultaneously with these transitions the relative frequencies of both negative and positive emotional reactions tend to increase.

Heinicke and Bales (1953) have observed the developmental trends in the interaction structure of small problem-solving groups. They found that initially the members exhibited a high degree of task-oriented interaction, but this preoccupation with the task declines in the second session and thereafter. Comparatively small amounts of disagreement and tension are exhibited in the first session, but these show a sharp increase in the second session. From the second session on, negative reactions decrease but positive reactions tend to increase. Amount of agreement declines sharply from an initial high level, but this is compensated for by the sharp rise in solidarity and tension release. It was observed that the second session was generally the critical one for the differentiation and establishment of structure. Philp and Dunphy (1959), observing groups in Australia, found both similarities and differences in the development of the interaction structure of their groups as compared with their American counterparts.

They found that task-oriented interaction increased in the second session from the first session, while there was a decrease in the amount of positive affect in the second session. These trends are just the opposite of those found by Heinicke and Bales. It can also be noted that both positive and negative reactions did not attain as high a level throughout the sessions as did the groups of Heinicke and Bales. However, Philp and Dunphy did observe that the second session constituted somewhat of a crisis in the development of the interaction structure. They attributed the differences to the type of problem involved and the differing resources of the members of the respective groups.

These studies provide strong evidence to support the view that individuals differ in their capacity to initiate and maintain interaction with other persons, and that these differences account to a very large degree for the differentiation of structure in the group. They also demonstrate that systematic changes in the interaction structure over time can be observed and measured.

In the second place, many writers have looked for the origin of group structure in the characteristics of the individuals composing the group. For example, Barnard (1946) stresses the way in which individual differences in ability and temperament lead people to do certain group tasks themselves and to give other tasks to other people. In like manner, some persons like to assume responsibility while others prefer to be told what to do. Jennings (1950) reports that the emergence of status differences is related

to personality differences among the group members, particularly in reference to spontaneity and personal security. Carter (1954) found that functional differentiation is related to differences in the group task and to differences among the members in task-related skills.

Thirdly, the development of a differentiated group structure stems from requirements for efficient group performance. Heinicke and Bales (1953) have observed that newly assembled groups are able to make only abortive attempts to complete the group task so long as the role structure remains undefined. The members seem compelled to direct their efforts toward the differentiation of function and status. Once they have developed and acknowledged a role structure, the members are able to go ahead with the group task. Bavelas (1948) has invented designs which impose strictly controlled communication channels upon experimental groups. A "circular" design permits each member to communicate only with one member immediately to his right and left. An "all channels" design permits each member to communicate with every other member. A "wheel" design makes one member a co-ordination center, and all other members are able to communicate only with the central, co-ordinative member. Groups with wheel designs quickly develop clearly defined role structures with the co-ordinate member occupying the high status position in the group.

Other studies emphasize the role of the solution of the internal and external problems of group life as the

prerequisite to the development of group structure. Bales (1950) sees a group as having two basic tasks to perform: (1) to solve the objective problem which confronts the group and (2) to build, maintain, and regulate group life. Thus, all group activities are directed to task goals and system goals: task goals being the problem the group is trying to solve or the task for which the group exists to undertake; and system goals being those of integrating the group's interpersonal relationships. The evolving group structure is regarded as a product of the solutions to early instability in interpersonal relationships, which become more standardized or institutionalized so the group members can be free to devote their full energies to the task. Stock and Thelen (1958) have formulated a similar conception of group structure. According to their point of view, a group can be described at any point in its existence as operating in a particular work-emotionality culture. In other words, a group can be described in terms of its work activities, the emotional basis on which it is operating, and the dynamic relationship that exists between these two aspects of group life.

Bennis and Shepard (1956) have elaborated a concept of a six-phase sequence of group development derived from their observations of training groups. They compare the development of group maturity to the development of individual maturity. They believe that group maturity involves the overcoming of obstacles to valid communication among the members, and the development of methods for testing group

consensus. The main obstacles or problems to be solved before valid consensus can be arrived at are the problems of authority and personal intimacy, love and power, dependence and independence.

It is clear from the above that members of groups find it necessary to develop a recognized role structure before they can devote their efforts to effective task achievement. The conception arrived at is that the activity or communication of group members is devoted to the solution of two basic problems: the internal emotional or interpersonal relationships, and the external task imposed on the group. This activity or interaction is conceived of as being distributed in time and among persons. The former assumption is the basis for the phase sequence hypothesis of Bales and Strodtbeck (1951) mentioned above. The latter assumption implies that members will contribute differently to the solution of these problems because of their unique pattern of abilities and personality characteristics, and that insofar as these differences are stable, they may be referred to as roles. "Role" in this case is defined as "a patterned sequence of actions and reactions performed by a person in an interaction situation" (Sarbin, 1954). It should be quite clear that the term role in the present context of the small group situation is not the same thing as the one found in the large scale social system. In the latter context there is a recognition by the actor and by others of the obligations, both duties and restraints, involved in a role (Neuman, 1951). By role here is meant a

function or pattern of behavior which a group member more or less exhibits in the group process.

The development of stability and the corresponding emergence of roles is predicated on the notion that stability fulfills certain important functions. Differentiation in kind and amount of activity comes to serve a useful purpose in the group, not only in terms of task efficiency, but also in increasing the accuracy with which members can predict when, how, and why other members are going to behave. Group members thus come to have roles which involve both very loose prescriptions and proscriptions in behavior and also special relationships to the external task. The role expectations have been analyzed by several researchers in terms of actions, or task activities, and qualities, or kind of affect exhibited in the group. In summary, the structure of the group may be described in terms of the differential interaction, performances and abilities, and expectations of the members./

In a recent book Parsons and Bales (1955) present a theory of role differentiation in small social systems in which the major generalization specifies that leadership structures in all small groups are uniformly differentiated along the above described instrumental-expressive axis. The empirical data upon which this generalization is based are primarily a series of laboratory studies by Bales and Slater (1955) and Slater (1955). It is this theory that provides the basic point of departure for the present experiment.

The basic theme is that the task demands and social-

emotional demands of the group lead to the emergence of persons who more or less specialize in one of these aspects of group life. The task specialist is one who represents the task values of the group members. The social-emotional specialist is one who represents other values and attitudes which are threatened or deemphasized by the task requirements.

Measures of how much a man talks are obtained from the interaction records. Measures of how the members judge each other's ideas, guidance ability, and how much they like each other are obtained by a questionnaire after each meeting. A simple measure of the degree to which these measures tap different aspects of the differentiation of function is obtained by asking the question: How many times are found in which a person ranks first on one characteristic but does not rank first on any of the other characteristics? A "specialist" is then defined as one who achieves isolated prominence in only one of these areas. In like manner, if there is any other characteristic which achieves prominence, then it might be considered to identify an "axis" of differentiation. The principal type of differentiation is revealed by the separation of the task rankings from the rankings on liking. Role differentiation, then, seems to be bipartite, with a task specialist and a social-emotional specialist. Sometimes differentiation is tripartite, with a person ranked high on total activity being prominent. Usually, though, activity (talking) is highly correlated with task status.

Grusky (1957) offers supporting evidence for the role differentiation generalization of Parsons and Bales by analyzing the behavior of a "natural" small group. The object of the study was the staff of a psychological clinic in a large mid-western university. A sociometric test was followed by personal interviews. In the course of the observations, a phenomenon called familial role differentiation emerged. The investigator noted two specialized roles that characterized the role structure, the "father-like" role and the "mother-like" role. The father-like figure had a strong sense of responsibility, a general concern and interest in the control of the group process, and was efficient and task-oriented. The function of the father-like figure centered around the group goals. The mother-like figure centered around the prolongation of smooth and friendly interpersonal relations in the group. She was characterized by her warmth and expressiveness in her social relationships. The function of role differentiation, according to the point of view here presented, is that of setting up integrative roles which together act to preserve the solidarity of the group.

Other studies seem to support the concept of three basic roles which correspond to Bales' categories of "activity," "task ability," and "likeability." A recent study of Wispe (1955) is concerned with a set of ratings and sociometric choices made of each other by a group of insurance salesmen in an insurance organization. After a

factor analysis of his data he finds "a paradoxical situation: the hard-driving agent, who may be a valuable asset on one's debit, is not the person to invite home for a relaxing evening, while the person with the compassionate qualities, who makes a pleasant house guest, is not the person to select if you have to make your daily quota of sales. This conflict of expectancies reveals the agents's dilemma. As insurance salesmen these men would like to be successful and as human beings they would like to be accepted. Yet, according to the analysis, the traits which make for success as an insurance salesman preclude acceptance as friend."

Wiske found three orthogonal factors which he describes as follows:

Factor A, insurance intelligence, has high loadings on items 4 and 7, which pertain to "help with insurance problem" and "technical insurance information" respectively. This factor seems to describe the kind of person to whom men turn for technical insurance information.

Factor B, sociability and sympathy, has loadings on item 3, "choice for house guest," and item 6, "the most sympathetic man in the district."

Factor C, aggressive salesmanship, has high loadings on items 1, 2, and 5. Item refers to "choices for an assistant for a day on the debit;" item 2 refers to "someone to present a new sales plan;" and item 5 is the selection of the "most aggressive man in the district." This factor seems to be the stereotyped aggressive salesman.

These three factors also bear a very strong resemblance to the findings of a number of other factor analytic studies in which the members of small groups rate and choose each other on a wide variety of descriptive criteria, or are assessed by others. Carter (1954) indicates the generality

of the factors in reviewing a series of factor analytic studies. Carter describes the factors as follows:

Factor I. Individual prominence and achievement -- behaviors of the individual related to his efforts to stand out from others and individually achieve various personal goals.

Factor II. Aiding attainment by the group -- behaviors of the individual related to his efforts to assist the group in achieving goals toward which the group is oriented.

Factor III. Sociability -- behaviors of the individual related to his efforts to establish and maintain cordial and socially satisfying relations with other group members.

Both groups of three factors seem to represent underlying dimensions in the evaluations persons make of each other, whether as observers or as fellow group members. But the important thing to note is that these three factors, which may be called "activity," "task ability," and "popularity," have been found in general to be uncorrelated. It is these three factors, which seem to represent more or less different functions in the group, that form the theoretical basis for research in the development of a differentiated role structure in groups.

### C. Basic Assumptions

The researcher who studies group interaction is faced with data consisting of verbal statements and nonverbal behaviors of individuals in a face-to-face situation. His task is to understand what is going on -- to make sense of the group situation. In this task he may be aided by (1) some a priori view of the nature of group interaction, and/or (2) certain procedures for data collection. Both aspects of group research involve certain preconceptions

about group processes and methods of measurement. We turn now to a brief summary of the assumptions made in the present research regarding these elements.

The fundamental assumptions of this experiment may be stated briefly: (1) the interaction of the small group constitutes a system which has properties which to some degree are regular and predictable, (2) the system can be seen as a structure made up of roles, (3) the orientations obtaining in the social system can be experimentally manipulated and differential effects observed.

In its barest essentials, the fundamental conception of group processes employed in this research is as follows: The problem-solving small group faces two basic problems, the internal or interpersonal problems, and the external or the task demands made on the group. The internal problem is not only a means to a solution to the external problem, but interpersonal relations may become the chief problem, resulting in the neglect or reinterpretation of the task problem. In the solution of the external problem, or even in the balancing of the emphases to be given to external and internal matters, certain processes are essential, processes which Bales (1950) has defined as the "functional problems" of communication, evaluation, decision, tension reduction, and reintegration. The first three relate to the process of arriving at a group consensus; the latter three relate to the social-emotional aspects of coordinated group effort. The interaction arising from the attempt to solve these two basic problems tends to be differentiated in terms of time,

of who performs the activity, and the quality of the activity. This differential patterning of action and reaction leads to the development of role structure in the group.

Not only can this patterning of social relationships be observed directly, but they may also be studied by questioning each individual about his perceptions of others in the social system. Each actor's definitions and expectations of the other actors are constantly being tested and revised through interaction. The questionnaire technique enables the researcher to take the point of view of each actor in turn. By proper fitting together the answers of all the participant individuals, the experimenter can obtain considerable insight into the system of relationships. It is assumed, then, that each actor's definitions of the other actors can be partially learned through the proper use of questionnaires. In the present analysis the group structure was inferred from consistencies in overt behavior, consensus in rankings, and sociometric choice.

For the purposes of this experiment, questions concerning the relative complexity, clarity, and permanence of role-differentiation which may be measured, or considered to take place in small ad hoc problem-solving groups, are not of great importance. It is assumed that the development of group structure can be caught in the making from some minimal level, and that these observations will serve as clues to the general forms of role differentiation and development of group structure on a more complex level.

#### D. Hypotheses

In this research the initial formulation was not planned around tight models of the hypothetical-deductive variety, but was more empirically oriented, seeking to discover and explore some variables assumed to be important for the development of group structure. Since there is no comprehensive theory dealing with the development of group structure, i.e., no theory that incorporates all the relevant variables that influence the development of group structure, it is not possible to predict with precision all the consequences of the interaction of the experimental variables and the effect of other factors, such as kind of task, frequency of meeting, etc. Some of the main effects may be predicted, but others will have to be discovered through analysis of the data, and these may obtain only under the present experimental conditions. For example, the exact patterning of the kinds of interaction can be predicted in a gross way only. However, there are some consequences that can be predicted, based on the results of previous research and the author's interpretation of the variables involved.

The basic hypothesis predicts that, if two groups are differentially oriented, distinctive structures should appear. The groups will be differentiated by their kind of interaction and their style of informal leadership. Specific hypotheses can be formulated, based on this broad generalization.

## Interaction trends

Hypothesis 1: Interaction-oriented groups will engage in more positive social-emotional activity than task-oriented groups.

Hypothesis 2: Task-oriented groups will engage in more negative social-emotional activity than interaction-oriented groups.

These hypotheses are based on the known personality characteristics of individuals who are members of the respective groups. Task-oriented individuals tend to be aggressive and competitive; interaction-oriented individuals tend to avoid hostility and strive to attain harmony in the group.

Hypothesis 3: There will be a decrease in the amount of overt agreement expressed in both task-oriented and interaction-oriented groups.

This hypothesis indicates that the orientation of group members will not effect the decrease in agreement. As a group develops, regardless of orientation, there is less need to agree overtly because of the increase in solidarity and accuracy of expectation. Through the building of a common culture by interaction, agreement will become more implicit than explicit.

Hypothesis 4: Interaction-oriented groups will engage in a greater amount of task-oriented interaction.

Hypothesis 5: The total amount of interaction will be greater in interaction-oriented groups than in task-oriented groups.

These two hypotheses are based on the definition of interaction-oriented individuals as being persons who derive their basic satisfaction from their interaction with other persons. For them it should be supportive to engage in conversation with others. The higher rate of activity would

also stem from the fact that they are more sensitive to the stimulation of other individuals. They may not be as efficient taskwise as task-oriented individuals, thus needing to interact more concerning the task.

### Informal leadership

Hypothesis 6: Task functions and social-emotional functions will be more clearly separated in interaction-oriented groups than in task-oriented groups.

This hypothesis is based on the assumption that task-oriented individuals would like those persons best who help them to attain their basic satisfaction in a group situation, i.e., task achievement. In the interaction-oriented groups the person who was the most supportive would be the best liked. This would not usually be the task leader. Therefore, these functions would tend to reside in separate individuals.

## CHAPTER II

### METHOD

#### A. Subjects and Groups

The subjects were 80 students, 40 and 40 women, from the introductory psychology course at the University of Florida. They were selected from approximately 600 students who formed the enrollment for the fall and spring semesters 1961-62. They were selected on the basis of their scores on the SIT Inventory, a test which discriminates among three different orientations that may be taken in group situations: self-orientation, interaction-orientation, and task-orientation. The SIT Inventory consists of forced-choice questions about personal preferences, values and projections. It was constructed by Bass (1961) as a device for screening populations for samples of these ideal types of orientation. A report (Bass, 1961) was published that deals with the construction of the SIT Inventory, its reliability, norms, and validity. The final form of the test contained twenty-seven triads. Each triad consists of an incomplete statement followed by three alternative completions relating to each of the three orientations. The examinee chooses which of the three statements he agrees with most, and the one he agrees with least. The test is scored by giving

a weight of two points for the alternative agreed with most, one point for the alternative left blank, and no points for the alternative agreed with least. The score on the three scales is derived by summing the weights given to the items corresponding to the three types of orientation. Ss who had extreme scores in the high end of the distribution on the interaction- and task-orientation scales were placed in homogeneous groups according to their orientation pattern. In this study, the category of self-orientation was not included. There were eight groups in each orientation condition and five Ss to a group. Four groups in each condition were composed of men, the other four being composed of women. The groups met twice a week for three weeks, making a total of six meetings.

Due to the difficulties of obtaining and scheduling subjects, an attempt to equalize the intervals between meetings was abandoned. Casual observation of the behavior of the groups did not reveal any great difference between groups with differing time intervals between meetings. Since most of the differences in the time intervals between meetings were not more than a day, it is assumed that these differences were negligible in their effects on the interaction and leadership structure of the groups.

#### B. Task

Ss were required to discuss a human relations problem and come to a group consensus in order to answer several suggested questions pertaining to the problem. The problem

was taken from a book of case histories of human relations problems in business (Glover and Hower, 1957). The problem and the task instructions may be referred to in Appendix D. A single problem was used for all six sessions, instead of one for each session, in order to observe the interaction pattern of groups in solving a single problem over several meetings.

In order to keep the group stimulated to discuss the problem additional information pertaining to the problem was given to the Ss each time they met. This additional information was classified into three categories: employer-employee relationships (E), personality characteristics of some of the prominent characters involved in the case (P), and descriptions of two incidents in the story (I). Two different orders of presentation of the additional material were arranged so that the effect of order and type of material on the interaction pattern of the groups could be evaluated. In Order 1 the material was presented in PIE sequence. The sequence was EPI for Order 2. This additional information may also be referred to in Appendix D.

The basic information sheets and the additional information sheets were mimeographed and distributed to Ss each session. Scratch paper was provided each S for keeping notes on the proceedings. Both the problem sheets and the note sheets were taken up by E each session. A questionnaire regarding various aspects of the group process was given to Ss after each session.

### C. Dependent Variable Measurements

#### Interaction trends

Bales' interaction process analysis categories (1950) were used as a means of analyzing the interaction structure of the groups. Bales has developed a set of observational categories which represent a systematic set of carefully defined concepts which can be used for observing and analyzing the interaction of any kind of face-to-face group. Each unit of observed behavior, which is the smallest discriminable segment of verbal or nonverbal behavior to which the observer can assign a classification, is classified into one of a set of twelve categories. This set includes behavior of four types: Positive affect: showing solidarity, tension release, and agreement; task questions: asks for direction, orientation, and opinion; task answers: gives direction, orientation, and opinion; and negative affect: disagrees, shows tension, shows antagonism. These may be seen in Table 1.

The analysis did not include individual to individual communication, but rather the interaction of the group as a whole. To observe the groups, E sat behind an inclined bench about eight feet from the Ss at the side of the room. Ss sat around a round table about five feet in diameter. This table was used to control the effect of position on the leadership structure of the group. In order to control observational bias by E, the two kinds of groups were coded by a person other than E. The groups were then scheduled according to the code. Thus, E was not aware of the

Table 1

## Bales' Interaction Process Analysis Categories

| Combined            | Separate                                                               |
|---------------------|------------------------------------------------------------------------|
| A: Positive Affect  | 1. Shows solidarity, raises other's status, gives help, reward         |
|                     | 2. Shows tension release, jokes, laughs, shows satisfaction            |
|                     | 3. Agrees, shows passive acceptance, understands, concurs, complies    |
| B: Giving Answers   | 4. Gives suggestion, direction, implying autonomy for other            |
|                     | 5. Gives opinion, evaluation, analysis, expresses feeling, wish        |
|                     | 6. Gives orientation, information, repeats, clarifies, confirms        |
| C: Asking Questions | 7. Asks for orientation, information, repetition, confirmation         |
|                     | 8. Asks for opinion, evaluation, analysis, expression of feeling       |
|                     | 9. Asks for suggestion, direction, possible ways of action             |
| D: Negative Affect  | 10. Disagrees, shows passive rejection, formality, withholds help      |
|                     | 11. Shows tension, asks for help, withdraws "Out of Field"             |
|                     | 12. Shows antagonism, deflates other's status, defends or asserts self |

orientation category of the groups being observed.

### Informal leadership

Two measurements of the informal leadership in the group were made: role differentiation, or the extent to which group members distinguished between different kinds of favorable evaluations, and status consensus, or the extent to which group members agreed on the evaluations. Questions were asked requiring the group members to rank each other's ideas, guidance ability, and amount of participation. Ss were also asked to choose the person they liked best and the one they liked least.

Simple measures of the degree to which these rankings may tap different aspects of role differentiation were obtained by asking the following questions: How many times is there found a rank-one person on one of the ranked characteristics who is top man on that characteristic only? How many times is there found a rank-one man on either task ability or guidance ability who is also ranked first on popularity? Are the rankings on the four characteristics correlated or uncorrelated?

The measure used to represent status consensus, or the amount of agreement on a given set of rankings of members of each other, is based on Kendall's "Coefficient of Concordance" which he calls "W." It is obtained from a matrix of rankings, each individual (placed in vertical order on a series of rows) ranking each individual in the group (placed in horizontal order on a series of columns). The formula is as follows:

$$W = \frac{12 \sum S}{m^2 (n^3 - n)}$$

S equals the sum of squares of the deviation of the column totals from the grand mean, and n equals the number of individuals ranked by m observers. In the rankings here  $n=m$ , since everyone in the group ranks everyone else including himself. When agreement is perfect, W is equal to 1.00; when there is no agreement, W is equal to .00.

#### Role and decision satisfaction

Measurements of the degree of satisfaction Ss had with the role they played in the discussion and with the decisions made in the group were made by having each S rate his satisfaction on each of these factors on a seven-point scale, which ranged from very greatly satisfied to very greatly dissatisfied.

## CHAPTER III

### RESULTS

#### A. Interaction Trends

The interaction patterning of the groups was observed by using Bales' interaction process categories. This systematic set of twelve categories is shown in Table 1. The twelve separate categories are combined further into four basic classifications of interaction: A, positive affect; B, giving answers; C, asking questions; D, negative affect. The scores used for analysis represent the total number of acts classified in each of the separate and combined categories for each group per session. The effects were evaluated by an analysis of variance.

#### Social-emotional trends

Positive affect.---Table 2 shows the total number of acts for the four combined categories for both orientation groups. The F values for the combined categories are reported in Table 3. Although the interaction-oriented groups (I) did express more positive affect than task-oriented groups (T), the difference did not reach statistical significance. Thus, Hypothesis 1 is not supported by the data. It may be seen also that there was a slight increase in positive affect over the six sessions. The first two

Table 2

## Total Acts Per Session for Combined Categories

| Categories          | Orienta-<br>tion | Sessions |      |      |      |      |      |
|---------------------|------------------|----------|------|------|------|------|------|
|                     |                  | 1        | 2    | 3    | 4    | 5    | 6    |
| A: Positive Affect  | I                | 1214     | 1225 | 1374 | 1266 | 1428 | 1353 |
|                     | T                | 1148     | 1127 | 1370 | 1325 | 1248 | 1554 |
| B: Giving Answers   | I                | 3940     | 4099 | 4039 | 4315 | 4169 | 4273 |
|                     | T                | 3716     | 3774 | 3710 | 4096 | 4175 | 4563 |
| C: Asking Questions | I                | 301      | 314  | 280  | 280  | 337  | 342  |
|                     | T                | 308      | 304  | 302  | 237  | 320  | 333  |
| D: Negative Affect  | I                | 75       | 113  | 123  | 151  | 143  | 152  |
|                     | T                | 177      | 243  | 193  | 256  | 171  | 299  |

Table 3

## F Values for Combined Categories

| Sources of Variance         | Categories |        |      |       |
|-----------------------------|------------|--------|------|-------|
|                             | A          | B      | C    | D     |
| Orientation                 | .00        | .27    | .05  | 6.38* |
| Sex                         | 2.64       | .00    | .92  | .00   |
| Order                       | .32        | 3.18   | .64  | 1.70  |
| Sessions                    | 1.86       | 7.02** | 1.75 | 3.47* |
| Orient X Sex                | .03        | .42    | 2.38 | .05   |
| Orient X Order              | .68        | .02    | 1.44 | .10   |
| Sex X Order                 | .54        | .27    | .54  | .05   |
| Sess X Orient               | .69        | 1.92   | .27  | 1.24  |
| Sess X Order                | .46        | 1.85   | 1.10 | 3.48* |
| Sess X Sex                  | 1.55       | 3.01*  | .46  | .48   |
| Sess X Orient X Sex         | .68        | 1.60   | .92  | 1.37  |
| Sess X Orient X Order       | .52        | .78    | .53  | 3.09* |
| Sess X Sex X Order          | .93        | .45    | 1.77 | 1.45  |
| Orient X Sex X Order        | 1.13       | .17    | .01  | .33   |
| Orient X Sex X Order X Sess | 1.15       | .38    | .15  | 1.19  |

\*p&lt;.05

\*\*p&lt;.01

sessions were approximately equal. There was a sharp increase in session 3 followed by a decrease in session 4. The I groups showed a sharp increase in session 5 followed by a decline, while the T groups showed a decrease in session 5 followed by a sharp increase in session 6.

Data for selected separate categories are reported in Table 4. The F values for these categories are indicated in Table 5. There appears to be very little difference between the I and T groups in regard to the amount of tension release expressed. It may be observed, however, that there is a statistically significant amount of change over the six sessions. The amount of tension release increases very rapidly for the first three sessions, levels off some through the fourth session, followed by a sharp increase in both groups in sessions 5 and 6.

It may also be noted that there is only a small difference between the I and T groups with regard to the amount of agreement overtly expressed. However, the I groups did tend to express more agreement in the first session than the T groups. It was predicted that there would be a decrease in the absolute magnitude of agreement expressed over the six sessions. Even though there was a decrease over time in the total number of acts of agreement, the results are not statistically significant. However, the F value obtained barely missed the value for the .05 level. It may be observed in Table 4 that three of the five categories show an increase in the number of acts over the six sessions. Two of these, tension release and gives opinion, show a

Table 4

Total Number of Acts Per Session for  
Selected Separate Categories

| Categories           | Orientation | Sessions |      |      |      |      |      |
|----------------------|-------------|----------|------|------|------|------|------|
|                      |             | 1        | 2    | 3    | 4    | 5    | 6    |
| 2. Tension Release   | I           | 272      | 423  | 644  | 526  | 732  | 715  |
|                      | T           | 306      | 352  | 564  | 483  | 657  | 723  |
| 3. Agrees            | I           | 903      | 776  | 680  | 703  | 662  | 668  |
|                      | T           | 796      | 726  | 740  | 683  | 726  | 735  |
| 5. Gives Opinion     | I           | 2734     | 3026 | 3003 | 3225 | 3118 | 3248 |
|                      | T           | 2597     | 2780 | 2713 | 3020 | 3123 | 3310 |
| 6. Gives Orientation | I           | 1170     | 1024 | 1030 | 1059 | 1002 | 983  |
|                      | T           | 1022     | 949  | 959  | 1034 | 1033 | 1205 |
| 10. Disagrees        | I           | 51       | 91   | 83   | 87   | 104  | 77   |
|                      | T           | 131      | 131  | 119  | 153  | 119  | 178  |

Table 5

F Values for Separate Categories

| Sources of Variance         | Categories |       |        |      |       |
|-----------------------------|------------|-------|--------|------|-------|
|                             | 2          | 3     | 5      | 6    | 10    |
| Orientation                 | .03        | .00   | .44    | .01  | 4.51  |
| Sex                         | 2.34       | 1.61  | .26    | .76  | .36   |
| Order                       | .01        | 2.85  | 2.82   | .80  | .53   |
| Sessions                    | 4.42**     | 2.22  | 7.18** | .95  | .91   |
| Orient X Sex                | .07        | 1.41  | .51    | .11  | .55   |
| Orient X Order              | .48        | .44   | .32    | .93  | 1.04  |
| Sex X Order                 | .43        | .50   | .02    | 1.25 | .12   |
| Sess X Orient               | .59        | .79   | .72    | 1.71 | 1.35  |
| Sess X Order                | .47        | 1.29  | 2.06   | 1.73 | .23   |
| Sess X Sex                  | 1.44       | .77   | 1.62   | .96  | .41   |
| Sess X Orient X Sex         | .50        | .92   | 1.22   | .40  | .74   |
| Sess X Orient X Order       | .71        | 1.81  | 2.02   | 1.08 | 1.51  |
| Sess X Sex X Order          | .22        | .34   | .29    | .62  | .33   |
| Orient X Sex X Order        | .00        | 9.84* | .10    | .20  | .02   |
| Orient X Sex X Order X Sess | 1.64       | .17   | .38    | .51  | 3.16* |

\* $p < .05$

\*\* $p < .01$

significant increase. Although these results do not support Hypothesis 3 specifically they do suggest that overt agreement became less and less important over the six sessions.

Negative affect.--Table 3 indicates that there was a significant difference between the I and T groups in regard to the amount of negative affect manifested in the group process. The T groups engaged in much more negative emotional interaction than the I groups. This confirms Hypothesis 2.

Along with the rise in positive affect there was a concomitant rise in negative affect. This increase over time was statistically significant. It may be seen in Table 2 that sessions 2, 4, and 6 had the greatest amount of negative affect in the T groups. Both groups showed a sharp rise in the second session. For the I groups there was a steady increase in negative emotional interaction, while the T groups showed periods of decline following the sessions of a large amount of negative emotion.

Table 6 shows the amount of negative affect in those groups having different orders of presentation of the additional information. In the first two sessions those groups receiving the information in Order 2 (EPI) had the greatest amount of negative affect. From session 3 to session 6 those groups receiving the information in Order 1 (PIE) engaged in more negative emotional interaction. From Table 3 it can be observed that this constituted a statistically significant sessions X order interaction. Further analysis revealed that it was basically the T groups that

Table 6

Total Number of Negative Emotional Acts in Those  
Groups Having Different Orders of  
Presentation of Information

| Orders | Sessions |     |     |     |     |     |
|--------|----------|-----|-----|-----|-----|-----|
|        | 1        | 2   | 3   | 4   | 5   | 6   |
| 1      | 101      | 167 | 205 | 272 | 189 | 265 |
| 2      | 151      | 189 | 111 | 135 | 125 | 186 |

contributed to this interaction effect. This resulted in a significant sessions X order X orientation interaction. This means that T groups having Order 2 engaged in much greater negative emotional interaction during the first two sessions. After session 2 the T groups having Order 1 expressed more negative affect. I groups having Order 1 expressed more negative affect in all six sessions, although this difference at times was slight.

Although the T groups expressed more disagreement, the difference for this separate category failed to reach statistical significance. Disagreement constituted most of the negative affect expressed by the I groups. This means that the negative affect that was expressed in the I groups was limited mainly to less emotionally charged ideational conflicts. The effect of the different orders of additional material is demonstrated in a significant sessions X order interaction, shown in Table 5. Initially, those groups having Order 2 expressed more disagreement than those having Order 1. From the third session on those groups having Order 1 expressed more disagreement. However, in this case

there was not a significant sessions X order X orientation interaction.

### Task trends

The data for the combined task-oriented categories are presented in Table 2. It was predicted that the I groups would engage in more task-oriented interaction, especially in category B, "giving answers," and in the separate category "giving opinion." The results do not show significant differences between the two orientation groups. Thus, Hypothesis 4 is not supported by the data. However, the trends are in the direction expected. For the first four sessions the I groups do engage in slightly more task-oriented interaction than the T groups. This is true for both the combined category B and separate category "giving opinion." The data do reveal a significant increase in task-oriented acts over time. This may be noted in Tables 3 and 5.

There is only a very small difference between the I and T groups in the combined category C, "asking questions." The amount of interaction in this category tended to remain stable over time. The greatest change occurred between session 4 and session 5. In session 5 there was a rather sharp increase in this type of interaction in both orientation groups. This increase continued into session 6.

In contrast to the increase in "giving opinion," there was a decrease in the number of acts in the "giving orientation" category. The I groups decreased over the total six sessions, while the T groups decreased for the first three

sessions and then showed a slight increase. This means that orientation to the specific task assumed less importance in the problem-solving process over time.

#### Total activity

In Table 7 the total amount of activity for each session is reported. Analysis of the data revealed a significant increase in the total amount of activity over time. It may also be observed that for the first three sessions the I groups were more active than the T groups. This difference is not statistically significant. Even though the trends are in the expected direction, the results do not support Hypothesis 5.

Table 7

Total Amount of Activity for Each Session

| Orientation | Sessions |        |        |        |        |        |
|-------------|----------|--------|--------|--------|--------|--------|
|             | 1        | 2      | 3      | 4      | 5      | 6      |
| I           | 5530     | 5771   | 5871   | 6012   | 6077   | 6263   |
| T           | 5349     | 5448   | 5575   | 5914   | 5914   | 6649   |
| Total       | 10,839   | 11,219 | 11,446 | 11,926 | 11,991 | 12,912 |

#### B. Role Differentiation

Subjects in this experiment were ranked in four different ways for each session. From a post-meeting questionnaire it was possible to rank the individual on the perceived quality of his ideas, his perceived ability to guide the discussion, his amount of participation, and how well he was liked. The interest in role differentiation stems from the

relationships of these rank orders to each other. For purposes of communication these rank orders are referred to as Talking, Ideas, Guidance, and Liking. They represent the two basic aspects of group life: task and social-emotional. Role differentiation is defined in terms of the separation of these functions. That is, role differentiation is said to occur if the task and social-emotional functions are performed by two separate individuals.

In order to see whether or not these functions were separated in the groups, a count was made to see how many times out of the total number of 48 sessions (8 groups times 6 sessions) that a person who was ranked first on one characteristic (e.g., Talking) was not ranked first on any of the other three characteristics. These data are shown in Table 8. It is clearly revealed that there is a separation of the rankings on Liking from the rankings on the other

Table 8

The Number of Cases Out of a Total of 48 Sessions  
in Which an Individual Held Top Rank on One  
and Only One of Four Characteristics

| Characteristic | Orientation |    | Combined |
|----------------|-------------|----|----------|
|                | I           | T  |          |
| Talking        | 7           | 17 | 24       |
| Ideas          | 13          | 6  | 19       |
| Guidance       | 7           | 4  | 11       |
| Liking         | 30          | 14 | 44       |

three measured characteristics. Using a Chi-square measure of significance, it was found that the probability that these results occurred by chance is less than .01 for the T groups, less than .001 for the I groups, and less than .001 for the groups combined. It may be further noted that a greater separation of function occurred in the I groups. This means that in the I groups the characteristic of Liking achieved isolated prominence to a greater degree than in the T groups. This supports Hypothesis 6. The factor of Talking also achieved some isolated prominence in the T groups, slightly more so than Liking. In the I groups the Idea characteristic seems to be separated some from the characteristics of Talking and Guidance.

Further information may be obtained by changing the question and asking how many times does the same person hold top rank on two characteristics simultaneously? In Table 9, the number of groups per session in which the same person held top rank on both the Idea characteristic and the Liking characteristic are reported for both orientation groups. It may be seen that these functions tend to be separated more in the I groups than in the T groups. Table 10 indicates the number of groups out of eight in which the same person held top rank on both the Guidance characteristic and the Liking characteristic. This shows even more clearly the greater separation of task and social-emotional functions in the I groups.

The above techniques for determining the amount of specialization among the various characteristics deal only

Table 9

Number of Groups Out of Eight in Which the Same Individual Held Top Rank on Both the Idea and Liking Characteristic Per Session

| Orientation | Sessions |   |   |   |   |   |
|-------------|----------|---|---|---|---|---|
|             | 1        | 2 | 3 | 4 | 5 | 6 |
| T           | 3        | 5 | 6 | 2 | 8 | 5 |
| I           | 3        | 4 | 2 | 3 | 2 | 1 |

Table 10

Number of Groups Out of Eight in Which the Same Individual Held Top Rank on Both the Guidance and the Liking Characteristic Per Session

| Orientation | Sessions |   |   |   |   |   |
|-------------|----------|---|---|---|---|---|
|             | 1        | 2 | 3 | 4 | 5 | 6 |
| T           | 3        | 5 | 6 | 5 | 4 | 5 |
| I           | 0        | 2 | 0 | 1 | 1 | 2 |

with the top position on each characteristic. In order to include the other ranks in the analysis, each individual's mean rank for all six sessions for each of the characteristics was obtained. Then a rank-order correlation was computed for all pairs of characteristics. These eight rank-order coefficients for each set of orientation groups were transformed into z scores, averaged, and then transformed back into rank-order coefficients. These correlations are shown in Table 11. It may be seen, first of all, that there is a higher correlation among the characteristics of Talking, Guidance and Ideas than between Liking and either

Table 11

Mean Rank-Order Correlations Among Rankings on  
Talking, Ideas, Guidance and Liking

| Task-Oriented Groups        |   |     |     |     |
|-----------------------------|---|-----|-----|-----|
|                             | T | I   | G   | L   |
| Talking                     |   | .87 | .90 | .60 |
| Ideas                       |   |     | .91 | .74 |
| Guidance                    |   |     |     | .98 |
| Interaction-Oriented Groups |   |     |     |     |
|                             | T | I   | G   | L   |
| Talking                     |   | .71 | .92 | .24 |
| Ideas                       |   |     | .86 | .59 |
| Guidance                    |   |     |     | .29 |

Talking and Ideas. Secondly, a striking difference between the I and T groups may be observed. There is a sharp contrast between the two orientation groups in regard to the correlation between Liking and Guidance. In the T groups Liking is strongly associated with Guidance. For the I groups there is very little association between being liked and guiding the group. This is still further evidence that there is a greater separation between the task and social-emotional functions in the I groups. There is very little difference between the two orientation groups as to the interrelation of the various task characteristics. Talking, Ideas, and Guidance are highly correlated in both groups. It is interesting to note also the reasonably high

correlation between Liking and Ideas in the I groups.

Apparently, even for the I groups, the contribution of ideas to the group discussion is perceived to be of value.

If the number of positive sociometric choices accruing to individuals of the various task-related characteristics are counted, some picture of the relationship between how well the person performs and how well the other group members like him can be obtained. For each session all persons were listed in rank order for the characteristics of Talking, Ideas, and Guidance. The number of choices for being the best liked person were recorded for each rank. Then the number of choices for all six sessions for all rank-one individuals on each characteristic were pooled, and so for all rank-two individuals, and so on for the five ranks. This total number of choices was then averaged for each characteristic for each set of differently oriented groups. No distinction was made as to which meetings in the series of six were represented. The identity of the individuals was not preserved from meeting to meeting. The fact that John Smith might have been rank-one person in the first meeting, rank-two person in the second, and so on, was ignored. The data are presented in Figures 1, 2, and 3. As will be seen in Figure 1, the most talkative individual (a composite fiction, it will be remembered) is not the most popular man in either of the orientation groups. For the T groups the rank-two person is best liked; for the I groups, rank-three person. When sociometric choice is related to rankings on Ideas, a further difference between the I and T

groups may be seen (Figure 2). In the T groups ranks 1-3 are clearly differentiated as to liking. In the I groups there is very little discrimination among the first three ranks. In fact, there is much less discrimination among all the ranks in the I groups as compared to the T groups. This may also be seen in Figure 3 in which ranking on Guidance is associated with liking. It would appear that there is here a very interesting phenomenon which seems to be the consequence of the two types of orientation toward groups. Not only is there less differentiation among the group members in the I groups, but the range is more restricted. That is,

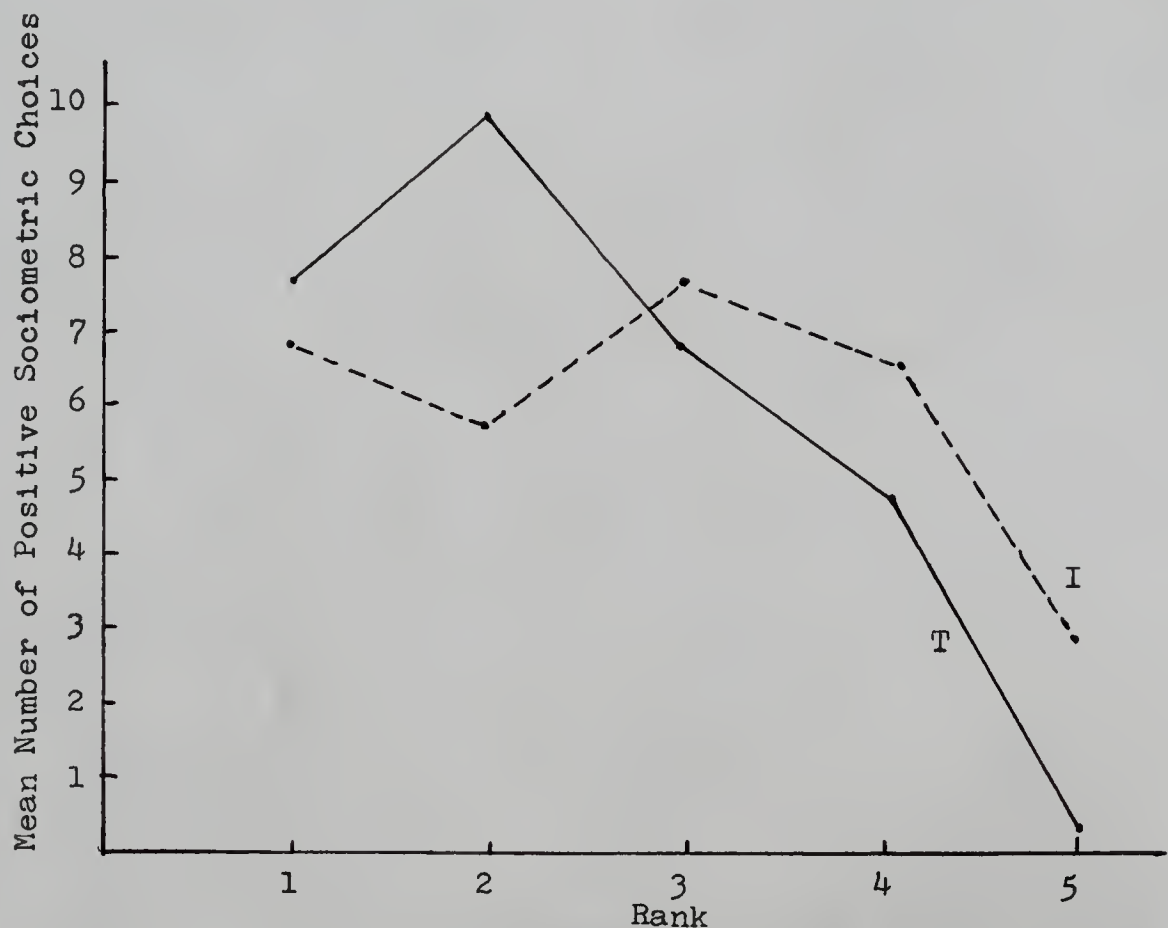


Fig. 1.--Relation of sociometric choice to rank on Talking

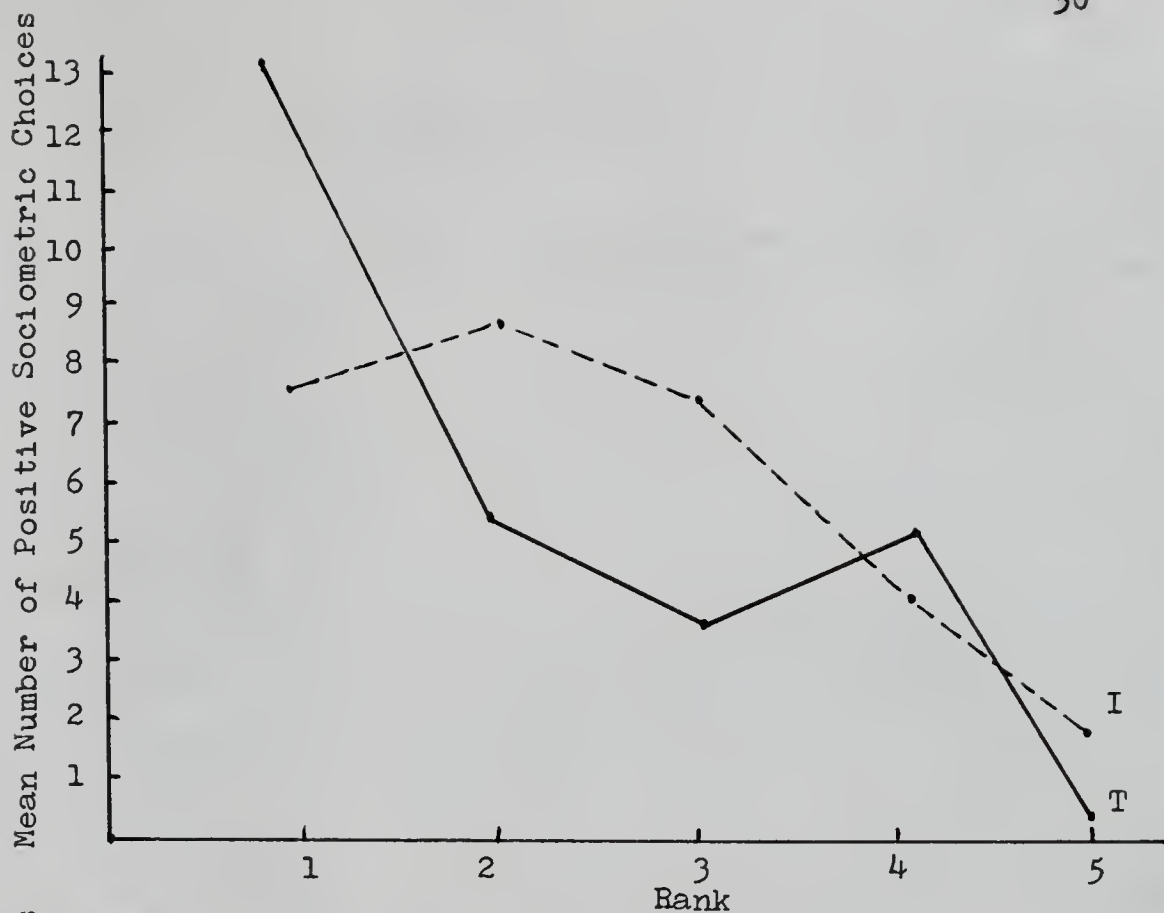


Fig. 2.--Relation of sociometric choice to rank on Ideas

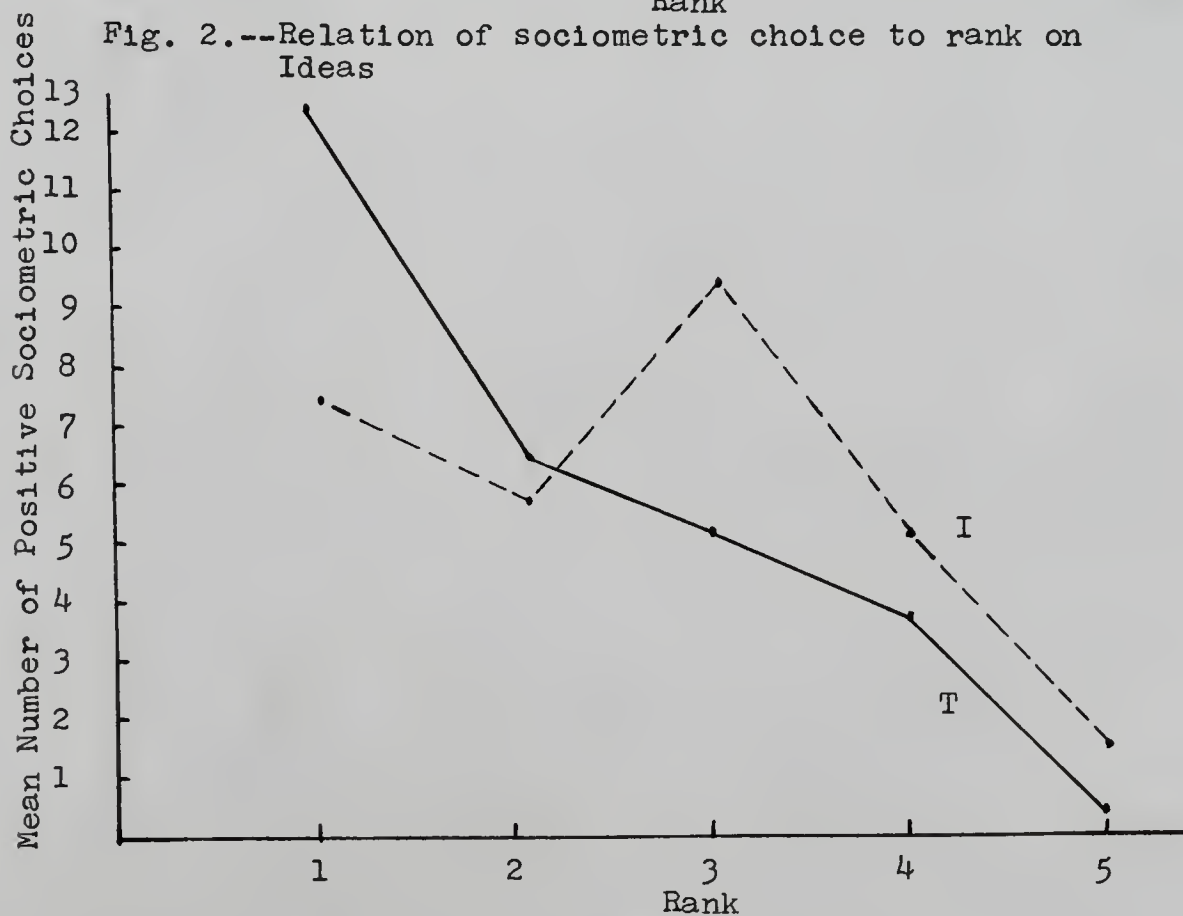


Fig. 3.--Relation of sociometric choice to rank on Guidance

the perceived similarity between the first-ranked individual and the last-ranked individual is greater in the I groups.

### C. Status Consensus

Table 12 reports the mean W (Coefficient of Concordance) for the Idea and Guidance rankings for both orientation groups for each session. There appears to be very little difference between the two kinds of groups with regard to the amount of agreement on leadership rankings. However, one interesting observation can be made. The T groups show a decrease in amount of agreement in sessions 2, 4, and 6. This particularly true for the Guidance rankings. In these same sessions the I groups show an increase in amount of agreement. These sessions are the ones in which different classification of additional information was given to the group. They are also the ones in which the greatest amount of negative affect was expressed.

Table 12  
Mean W for Guidance and Idea Rankings  
Per Session

| Rankings | Orien-<br>tation | Sessions |     |     |     |     |     |
|----------|------------------|----------|-----|-----|-----|-----|-----|
|          |                  | 1        | 2   | 3   | 4   | 5   | 6   |
| Guidance | T                | .62      | .53 | .66 | .54 | .67 | .59 |
|          | I                | .68      | .76 | .60 | .76 | .66 | .69 |
| Ideas    | T                | .59      | .55 | .67 | .47 | .56 | .45 |
|          | I                | .60      | .52 | .50 | .45 | .58 | .69 |
| Combined | T                | .61      | .54 | .67 | .51 | .61 | .52 |
|          | I                | .64      | .64 | .55 | .61 | .62 | .69 |

### D. Role and Decision Satisfaction

After each session each group member was asked to rate his satisfaction with the role he played in the group during that session and with the decisions that were made. The ratings were made on a seven-point scale. The results are presented in Table 13. The differences between the I and T groups are not statistically significant. However, it is interesting to note that the I groups on the average rated themselves as being more satisfied with their role and with the decisions made than the T group members in the first two sessions. Initially the I group members seemed to be more satisfied with the group process. Analysis of the data revealed that there was a statistically significant decrease in the amount of satisfaction both with the role played and with the decisions made over the six sessions in both orientation groups.

Table 13

Mean Ratings for Role and Decision Satisfaction

| Rating   | Orientation | Sessions |     |     |     |     |     |
|----------|-------------|----------|-----|-----|-----|-----|-----|
|          |             | 1        | 2   | 3   | 4   | 5   | 6   |
| Role     | T           | 4.6      | 4.4 | 4.6 | 4.6 | 4.3 | 4.3 |
|          | I           | 5.2      | 5.0 | 4.7 | 4.8 | 4.6 | 4.1 |
| Decision | T           | 4.6      | 4.4 | 4.3 | 4.7 | 4.4 | 4.3 |
|          | I           | 5.2      | 4.9 | 4.6 | 4.6 | 4.6 | 4.0 |

## CHAPTER IV

### DISCUSSION

Against this background of findings we may now attempt an interpretive summary. The evidence suggests that member orientation to the group is an important factor in the development of the structure of a group. That is, the data indicate that, if members of two groups perceive the group differently, distinctive interaction and role structures emerge. However, the data also reveal some striking similarities as well. These similarities suggest that there may be underlying developmental patterns common to most small problem-solving groups regardless of the orientation of the members.

#### A. Interaction Trends

The only statistical significant difference between the I and T groups with regard to the interaction structure was that the T groups expressed more negative affect. The members of these groups tended to argue, disagree, show antagonism, and become defensive to a greater degree than I group members. This was to be expected on the basis of the personality characteristics associated with this particular orientation. However, the data suggest that the

difference in personality characteristics alone is not the only factor determining this difference. The nature of the task also was a contributing factor to the response of the T group members. It will be remembered that T individuals were described as persons who derive their basic satisfaction from progress in task solution. The task given the group members in this experiment was ambiguous to some extent, i.e., the path to the goal was not clear. Even though Ss were instructed to make inferences from the information given, T group members were reluctant to do so and attempted to document conclusively every interpretation drawn from the material. The differential effect of the task may be seen in the significant sessions X orientation X order interaction. In the first two sessions those T groups having the additional information given in Order 2 showed the most negative affect. Beginning with session 3 this was reversed. Those T groups having the additional information in Order 1 expressed more negative emotion. The I groups having Order 1 expressed more negative affect than those having Order 2 in all six sessions. In addition, the difference between Order 1 and Order 2 in the T groups was greater than this difference within the I groups. A plausible explanation for this may lie in the fact that the information given in Order 1 ranged from specific information to more general information. Hence those groups receiving information in Order 1 perceived that they were getting less and less task-relevant information. This was particularly an important factor for the T groups.

Further evidence concerning the effect of the task on the T groups is found in the fact that there was a sharp increase in negative affect in sessions 2, 4, and 6. These were the sessions in which a new classification of material was given to the groups. This effect also occurred in the I groups, showing that this response was not completely due to the T group members. However, the T group members demonstrated a greater increase in negative emotion in these sessions. It seems that the introduction of new material causes some conflict of interpretation, etc., thus increasing the negative emotional interaction. For the T groups the amount of agreement on leadership rankings decreased in sessions 2, 4, and 6. The decrease in agreement on leadership rankings and the increase in negative affect in sessions 2, 4, and 6 indicate that the task partially contributed to the differences between the orientation groups in the amount of negative affect displayed. That is, the personality characteristics of the T group members interacted with the particular kind of task to produce the differences observed.

It was predicted that the I group members would engage in more positive emotional interaction than the T groups. The results indicated that there was no significant differences between the two kinds of orientation groups in this category. However, initially the I groups did display slightly more positive emotion. As the groups progressed over time this difference became smaller. This may be explained on the basis of Bales' (1955) equilibrium theory.

According to this theory a social system will survive only if a steady state is maintained in the system. Any disturbances introduced into the system tend to create forces that establish equilibrium within the system. For example, it might be argued that negative reactions in a group introduce a disturbance and reduce the satisfaction level of the members. Positive reactions are then needed to maintain the steady state of the group. Bales assumes that a preponderance of positive reactions over negative reactions is a condition of maintenance of the steady state. If this be true, then the greater amount of negative reactions in the T groups would result in comparatively more positive reactions in the latter half of the six sessions. This would balance the comparatively more positive reactions of the I groups in the first half of the six sessions.

In addition to these differences there are some striking similarities between the I and T groups as to their interaction development. In general both orientation groups initially began with a heavier emphasis on the task-oriented types of interaction, with inhibition of the more affective types of interaction. In session 2 there was a sharp increase in negative reactions but positive reactions remained steady. In session 3 the trend toward greater affect relative to the task-oriented interaction continues in both orientation groups. However, in session 4 there is a slight increase in task-oriented interaction.

Two kinds of trends are evident in the area of positive reactions. Overt showing of agreement shows a downward

trend, while tension release shows an upward trend. That overt showing of agreement would decrease over time is not obvious to one who is not familiar with interaction trends in groups. This downward trend in overt agreement may be explained by the fact that when individuals interact for the first time in a group they do not know what response to expect from one another. It can also be assumed that there is some motivation for insuring and maintaining the solidarity of the group. Expression of agreement in the face of unstructured relationships may be an attempt to maintain solidarity. As the group members interact over time they become more accurate in their expectations of the behavior of the other members and therefore feel freer to disagree. There also develops a common culture in which agreement may become more implicit than explicit. As the group develops in the process of solving the problem, and more information about the problem is known, there is a greater basis for disagreement. More time is needed in the later sessions than in the earlier sessions to formulate and build arguments for various points of view. Solidarity comes to be expressed in other ways, e.g., tension release, joking, and praise. All of these factors converge to produce an interaction structure in which overt expression of agreement assumes less and less importance.

There are also two kinds of trends in the task-oriented categories. "Giving opinion" shows a significant increase over the six sessions with a concomitant decrease in "giving orientation." The fact that the present task was somewhat

ambiguous may have forced the group members to persist in trying to solve the problem. This would necessitate the contribution of more ideas and the evaluation of the ideas presented. As the group members became more familiar with the task, the giving of orientation became less important relative to other kinds of interaction. In general all of these trends are consistent with the findings of Heinicke and Bales (1952). This provides some evidence that there is an underlying developmental interaction trend regardless of member orientation. That is, there seems to be an underlying pattern of development on which differences due to member orientation are imposed.

Contrary to common sense expectations, the I group members engaged in more task-oriented interaction and manifested more total activity. This is particularly true for the first three sessions. It is possible that, irrespective of manifest content, social interaction is of a social-emotional nature. If one seeks information and receives a response, that might indicate to him that his relationship with others is supporting him against a demanding environment. Perhaps only after exploration, when one is more confident of a response, will a trusting relationship develop. It also might be suggested that an interaction-oriented, socially sensitive person might be more responsive to the stimulation of other group members.

#### B. Role Differentiation

Both I and T groups show a separation of task functions

from social-emotional functions. Slater (1955) explains this divorcing of the task functions from the social-emotional functions by two basic kinds of reasons: sociological and psychological. The sociological reasons revolve around the incompatibility of the task and social-emotional roles. The group member who presses for the solution, contributes ideas, and attempts to direct the problem-solving process forces the other members to make continual minor adjustments in their behavior and evaluations of their ideas and values. The individual who concerns himself with the social-emotional aspects of the group process, on the other hand, tends to be supportive in his responses to the ideas and behavior of the other group members. It is assumed that the latter behavior is more appealing to the group members when they are asked to indicate whom they like best. The task specialist will not necessarily be disliked, but his task emphasis will tend to arouse some negative feelings. These feelings may not be expressed overtly, but they may enter into the evaluations of the group members so as to neutralize any positive feelings for him.

The second set of reasons is called psychological. These deal with the individuals' predispositions to assume a particular role. That is, some persons may have a "need" to avoid conflict. They may avoid task activity because of the threat that this activity may hold for them. On the other hand, the person who emphasizes the task functions may seek to avoid involvement in interpersonal relationships to any

depth. Needs to express hostility may be expressed in aggressive problem-solving behavior.

Bales and Slater (1955) have also related another factor to the development of role differentiation in groups. This is the factor of status-consensus. They have found in general that those groups who end their first meeting with low status-consensus (as measured by Kendall's W) usually develop sharply differentiated role structure. That is, in groups with low status-consensus the task functions and social-emotional functions are performed by separate individuals. Conversely, in high status-consensus groups there is only a moderate amount of separation of function. Sometimes it was found in high status-consensus groups that there was no differentiation, i.e., there was a one-to-one correlation with rankings on task activities and popularity. However, this was found to be a rare phenomenon.

If the results of this study are valid, then the above description and explanation will have to be modified. There is no indication in the present research that there is a relation between orientation, as defined here, and status-consensus. The amount of status-consensus was high for both orientation groups. Therefore, low status-consensus is not necessarily the only factor related to sharp role-differentiation, and high status-consensus does not guarantee lack of differentiation of roles. The evidence also indicates that a high correlation between Liking and either Ideas and Guidance may not necessarily be as rare as has been suggested. The task and social-emotional functions are not

necessarily incompatible. They may be incompatible only in some kinds of groups, e.g., randomly assembled groups. In certain kinds of composed groups there may be a high correlation between rankings on task ability and rankings on popularity, e.g., task-oriented groups.

It is at this point that the effect of the differences in orientation on the development of role structure may be observed. The particular personality characteristics associated with task-orientation, coupled with the ambiguous task, seemed to produce a different set of values for the T group members. It will be remembered that they find their greatest satisfaction in progress toward the solution of the problem. On this basis it seems reasonable to assume that those members who made the most contribution to the solution of the problem, and thus reduced tension and gained satisfaction for the other group members, would tend to be the best liked persons. Thus there would be less separation of the task and social-emotional functions. This is demonstrated in the fact that there is almost a one-to-one correlation between the Liking characteristic and the Guidance characteristic. The best liked person was the one who guided the group through the discussion. This is true to a lesser extent for the Idea characteristic.

In the I groups, on the other hand, task functions have a low association with the Liking characteristic, i.e., the task functions and social-emotional functions tend to be performed by separate individuals. It will be remembered

that I group members are oriented basically toward the group process. Their behavior is determined by inner needs such as the need to be loved and accepted, and a need to avoid conflict, disharmony, and hostility (Bass, 1961). Thus, the members who satisfy this need would tend to be the best liked. Even though I group members gain satisfaction from the interaction itself, they still need someone to contribute to the task solution. They still need to make some progress in the solution of the problem if the group is to satisfy the requirements of the experimenter. Thus the task specialist tends to be someone other than the social-emotional leader.

It may be concluded, then, that personality factors enter into the matrix of factors which determine the development of role structure. There is not always a sharp differentiation of task and social-emotional functions. At times there may be a high correlation between them, depending on the orientation of the group members. Another implication of the findings is that the configuration of personality factors operating to produce interaction orientation are not the same as those producing low status-consensus, even though both resulted in sharp role differentiation. Some personality factors may lead to a sharp separation of task and social-emotional functions without interfering with the agreement of the group members on rankings of task ability. This is an area that needs further experimental exploration. Apparently different groups emphasize task and social-emotional functions in varying proportions and the

distinctiveness of the separation of these functions depends on the weight given to each.

The differences in orientation also produced another interesting phenomenon. It was observed in the I groups that there was generally less discrimination among the group members on the Liking characteristic. The range between the best liked and the least liked was comparatively smaller than in the T groups.

The meaning of this tendency to make undifferentiated ratings on Liking has been explained by Slater (1955) on the basis of its relationship to scores on the California F-Scale. He found that high F-scores were found more frequently among members of low status-consensus groups. High F-scores were made also by those ranked high on Liking and comparatively low scores were made by those persons ranked high on either Ideas or Guidance. Both high F-scores and undifferentiated ratings were interpreted as reflecting a tendency toward a rigid and oversimplified approach toward interpersonal relationships. Fine perceptual discriminations are not expected to be made by those who score high on the F-Scale.

This phenomenon may also be related to the work of Fiedler (1954) on psychological distance in interpersonal relations. As a measure of psychological distance he used an index which he calls the Assumed Similarity between opposites, or ASo. An individual is asked to choose persons who are at the opposite poles of some continuum. Then the

individual is asked to make a judgment about how similar these persons are to each other. Fiedler reports the results of two studies in which the influence of ASo on teamwork was investigated. It was found in both studies that the most preferred man on the best teams (basketball and surveyor) tended to assume relatively little similarity between his own preferred and rejected co-workers. He infers from this that those persons who assume very low similarity between their best and poorest co-workers are highly task-oriented. This is consistent with the findings of Slater (1955) that those individuals ranked high on task status showed more discrimination among group members on Liking. The results of the present investigation are also consistent with this concept. In the task-oriented groups there is a greater differentiation made between the best liked and the least liked person.

Fiedler (1953) also found that Assumed Similarity scores are related to liking. Subjects perceive those whom they like as more similar than those whom they dislike. This can be reversed and stated that subjects who show a greater differentiation among persons in regard to liking will perceive very little similarity between them. And conversely, those who show lesser differentiation among persons on the liking continuum will perceive more similarity between them. It has been stated previously that interaction-oriented persons are basically oriented toward the group process. They are more concerned with the interpersonal relations in the group than with the task aspects.

On this basis it may be assumed that interaction-oriented individuals would tend to perceive group members as similar to avoid the anxiety of rejecting and being rejected. To admit that one likes some members more than others would imply that the individual may not be liked by other members. This would constitute a threat to interaction-oriented persons. This then would be expressed in a less fine differentiation among the group members on the Liking characteristic.

## CHAPTER V

### SUMMARY AND CONCLUSIONS

This is an experimental study of small problem-solving groups designed to show the effects of member orientation upon the development of group interaction and role structure. It was predicted that different interaction and role structures would develop in groups with differing orientations. Member orientation was defined as a set of pre-dispositions which determine how an individual will interact with other group members in building and maintaining a pattern of interpersonal behavior. Three different types of orientations were isolated and discussed: self, interaction, and task. A test, the SIT Inventory, which discriminates among these three orientations, was used to screen out two of these ideal types of orientation. Subjects who scored high on either the task or interaction scale of the SIT Inventory were placed in homogeneous groups representing each orientation. There were eight groups in each condition, half of which were composed of men, and half composed of women.

The group members were given a human relations problem to discuss for six 40-minute sessions. The interaction was observed by Bales' interaction process categories. Following

each meeting a questionnaire was given which was designed to elicit information about three types of roles: activity, task ability, and popularity. The analysis of the data was organized in terms of six main hypotheses, three of which received substantial support from the data:

Hypothesis 1 - Interaction-oriented groups will engage in more positive social-emotional activity than task-oriented groups.

There was no significant difference between the two oriented groups in the expression of positive affect. The hypothesis was not confirmed.

Hypothesis 2 - Task-oriented groups will engage in more negative social-emotional activity than interaction-oriented groups.

This prediction was substantiated. There was a statistically significant difference in the amount of negative affect expressed in the task-oriented groups.

Hypothesis 3 - There will be a decrease in the amount of overt agreement expressed in both task-oriented and interaction-oriented groups.

This prediction was interpreted as being partially supported. The hypothesis refers to the decrease in absolute magnitude of agreement. There was a decrease over time, but this barely missed significance at the .05 level. However, the significant increase in interaction in other categories coupled with the decrease in agreement lends some support to the basic idea inherent in the hypothesis, viz., that the importance of overt agreement will decline over time.

Hypothesis 4 - Interaction-oriented groups will engage in a greater amount of task-oriented interaction.

Hypothesis 5 - The total amount of interaction will be greater in interaction-oriented groups than in task-oriented groups.

There was no significant differences between the two orientation groups with respect to the amount of task-oriented interaction and total activity. However, the differences were in the expected direction.

Hypothesis 6 - Task functions and social-emotional functions will be more clearly separated in interaction-oriented groups than in task-oriented groups.

This prediction was supported by the data. The interaction-oriented groups demonstrated a sharper differentiation of task and social-emotional functions than the task-oriented groups.

In summarizing the results it may be seen that there are both similarities and differences between the two types of orientation groups. The interaction-oriented groups present a picture of being more positive in emotional tone. Initially they engaged in slightly more task-oriented interaction and showed more gross activity, and seemed to be a little more satisfied with the role they played in the group and with the decisions made. They also demonstrated a sharper differentiation of role.

On the other hand, the task-oriented groups present a picture of being more negative in emotional tone. They seemed to be more concerned about the task itself, which caused a lot of frustration. Their ratings on role and decision satisfaction were initially lower than those of the interaction-oriented groups. However, there was very little

difference in the latter three sessions. The task-oriented groups showed a much higher correlation between rankings on task ability and rankings on popularity. Hence there was less clear separation of the functions.

The basic similarities between the interaction- and task-oriented groups reside in the development of the interaction structure. In both types of groups there was a rise in the social-emotional activity concomitant with an initial slight decrease in task-oriented activity. The expression of agreement declined over the six sessions for both groups. Tension release and giving opinion increased at a significant rate. In fact, the total activity of both orientation groups increased significantly over time.

There are several general conclusions that can be drawn from the results:

(1) It is possible to discriminate among orientations persons have toward groups by the use of a paper and pencil test. This experiment provides partial validation for the SIT Inventory. Persons classified on the basis of this test will behave in predictable ways when they interact in a group.

(2) The use of the concept of orientation toward the group is a fruitful approach to group development. Groups whose members have differing orientations can be expected to develop differing interaction and role structures. It is possible to measure these differences.

(3) The relation of personality to role and interaction

structure in groups constitutes a very large problem area in which there are probably few simple answers. The measurements of this study are over-simplified, gross measurements. Further research is needed to tease out all the important factors or conditions determining group development. For example, the influence of various types of tasks on the developing patterns of groups is not precisely known. Another example might include the relation between status-consensus and orientation.

(4) Research is needed to investigate whether or not the various orientations produced by different determining conditions have similar consequences. For example, does a group develop the same when interaction-orientation is produced by a procedure-oriented leader and when this orientation is an expression of personality organization? Similarly, there is a need to study the interaction of internal and external determining conditions. For example, would interaction-oriented and task-oriented persons respond similarly to task-oriented instructions? What differences would there be?

It is hoped that these results and conclusions will provide a basis for exploring further the factors that effect the development of group structure.

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## APPENDICES

# APPENDIX A

## ANALYSIS OF VARIANCE TABLES FOR INTERACTION CATEGORIES

Table 14

Analysis of Variance for Combined Category A,  
Positive Affect

| Source                      | df | SS         | MS        | F    | P |
|-----------------------------|----|------------|-----------|------|---|
| Orientation                 | 1  | 81.58      | 81.58     | .00  |   |
| Sex                         | 1  | 50,142.04  | 50,142.04 | 2.64 |   |
| Order                       | 1  | 6,048.37   | 6,048.37  | .32  |   |
| Sessions                    | 5  | 14,926.22  | 2,985.24  | 1.86 |   |
| Orient X Sex                | 1  | 590.04     | 590.04    | .03  |   |
| Orient X Order              | 1  | 13,020.04  | 13,020.04 | .68  |   |
| Sex X Order                 | 1  | 10,343.88  | 10,343.88 | .54  |   |
| Sess X Orient               | 5  | 5,559.54   | 1,111.91  | .69  |   |
| Sess X Order                | 5  | 3,673.49   | 734.70    | .46  |   |
| Sess X Sex                  | 5  | 12,461.08  | 2,492.22  | 1.55 |   |
| Sess X Orient X Sex         | 5  | 5,441.21   | 1,088.24  | .68  |   |
| Sess X Orient X Order       | 5  | 4,135.95   | 827.19    | .52  |   |
| Sess X Sex X Order          | 5  | 7,465.40   | 1,493.08  | .93  |   |
| Orient X Sex X Order        | 1  | 21,420.37  | 21,420.37 | 1.13 |   |
| Orient X Sex X Order X Sess | 5  | 9,208.13   | 1,841.63  | 1.15 |   |
| Within                      | 8  | 152,143.69 | 19,017.96 |      |   |
| Error                       | 40 | 64,182.31  | 1,604.56  |      |   |
| Total                       | 95 | 380,843.34 |           |      |   |

Table 15

Analysis of Variance for Combined Category B,  
Giving Answers

| Source                      | df | SS         | MS        | F    | P   |
|-----------------------------|----|------------|-----------|------|-----|
| Orientation                 | 1  | 6,683.34   | 6,683.34  | .27  |     |
| Sex                         | 1  | 52.51      | 52.51     | .00  |     |
| Order                       | 1  | 77,577.51  | 77,577.51 | 3.18 |     |
| Sessions                    | 5  | 66,109.98  | 13,221.99 | 7.02 | .01 |
| Orient X Sex                | 1  | 10,188.76  | 10,188.76 | .42  |     |
| Orient X Order              | 1  | 372.09     | 372.09    | .02  |     |
| Sex X Order                 | 1  | 6,583.59   | 6,583.59  | .27  |     |
| Sess X Orient               | 5  | 18,075.28  | 3,615.06  | 1.92 |     |
| Sess X Order                | 5  | 17,397.41  | 3,479.48  | 1.85 |     |
| Sess X Sex                  | 5  | 28,323.41  | 5,664.68  | 3.01 | .05 |
| Sess X Orient X Sex         | 5  | 15,061.17  | 3,012.23  | 1.60 |     |
| Sess X Orient X Order       | 5  | 7,375.09   | 1,475.02  | .78  |     |
| Sess X Sex X Order          | 5  | 4,231.78   | 846.36    | .45  |     |
| Orient X Sex X Order        | 1  | 4,069.01   | 4,069.01  | .17  |     |
| Orient X Sex X Order X Sess | 5  | 3,586.37   | 717.27    | .38  |     |
| Within                      | 8  | 195,413.30 | 24,426.66 |      |     |
| Error                       | 40 | 75,262.20  | 1,881.56  |      |     |
| Total                       | 95 | 536,362.80 |           |      |     |

Table 16

Analysis of Variance for Combined Category C,  
Asking Questions

| Source                      | df | SS        | MS       | F    | P |
|-----------------------------|----|-----------|----------|------|---|
| Orientation                 | 1  | 26.04     | 26.04    | .05  |   |
| Sex                         | 1  | 513.38    | 513.38   | .92  |   |
| Order                       | 1  | 360.38    | 360.38   | .64  |   |
| Sessions                    | 5  | 995.71    | 199.14   | 1.75 |   |
| Orient X Sex                | 1  | 1,335.04  | 1,335.04 | 2.38 |   |
| Orient X Order              | 1  | 805.04    | 805.04   | 1.44 |   |
| Sex X Order                 | 1  | 301.04    | 301.04   | .54  |   |
| Sess X Orient               | 5  | 152.21    | 30.44    | .27  |   |
| Sess X Order                | 5  | 625.37    | 125.07   | 1.10 |   |
| Sess X Sex                  | 5  | 262.12    | 52.42    | .46  |   |
| Sess X Orient X Sex         | 5  | 524.45    | 104.89   | .92  |   |
| Sess X Orient X Order       | 5  | 302.70    | 60.54    | .53  |   |
| Sess X Sex X Order          | 5  | 1,006.45  | 201.29   | 1.77 |   |
| Orient X Sex X Order        | 1  | 7.04      | 7.04     | .01  |   |
| Orient X Sex X Order X Sess | 5  | 83.99     | 16.80    | .15  |   |
| Within                      | 8  | 4,479.33  | 559.92   |      |   |
| Error                       | 40 | 4,542.67  | 113.57   |      |   |
| Total                       | 95 | 16,322.96 |          |      |   |

Table 17

Analysis of Variance for Combined Category D,  
Negative Affect

| Source                      | df | SS        | MS       | F    | P   |
|-----------------------------|----|-----------|----------|------|-----|
| Orientation                 | 1  | 3,528.37  | 3,528.37 | 6.38 | .05 |
| Sex                         | 1  | .16       | .16      | .00  |     |
| Order                       | 1  | 953.19    | 953.19   | 1.70 |     |
| Sessions                    | 5  | 1,596.21  | 319.24   | 3.47 | .05 |
| Orient X Sex                | 1  | 30.38     | 30.38    | .05  |     |
| Orient X Order              | 1  | 54.00     | 54.00    | .10  |     |
| Sex X Order                 | 1  | 26.04     | 26.04    | .05  |     |
| Sess X Orient               | 5  | 573.00    | 114.60   | 1.24 |     |
| Sess X Order                | 5  | 1,604.68  | 320.94   | 3.48 | .05 |
| Sess X Sex                  | 5  | 220.95    | 44.19    | .48  |     |
| Sess X Orient X Sex         | 5  | 628.74    | 125.75   | 1.37 |     |
| Sess X Orient X Order       | 5  | 1,424.69  | 284.80   | 3.09 | .05 |
| Sess X Sex X Order          | 5  | 666.83    | 133.37   | 1.45 |     |
| Orient X Sex X Order        | 1  | 181.50    | 181.50   | .33  |     |
| Orient X Sex X Order X Sess | 5  | 549.59    | 109.92   | 1.19 |     |
| Within                      | 8  | 4,422.17  | 552.77   |      |     |
| Error                       | 40 | 3,684.83  | 92.12    |      |     |
| Total                       | 95 | 20,145.33 |          |      |     |

Table 18

Analysis of Variance for Tension Release

| Source                      | df | SS         | MS        | F    | P   |
|-----------------------------|----|------------|-----------|------|-----|
| Orientation                 | 1  | 404.26     | 404.26    | .03  |     |
| Sex                         | 1  | 28,462.59  | 28,462.59 | 2.34 |     |
| Order                       | 1  | 90.09      | 90.09     | .01  |     |
| Sessions                    | 5  | 34,597.18  | 6,919.44  | 4.42 | .01 |
| Orient X Sex                | 1  | 810.84     | 810.84    | .07  |     |
| Orient X Order              | 1  | 5,843.76   | 5,843.76  | .48  |     |
| Sex X Order                 | 1  | 5,236.26   | 5,236.26  | .43  |     |
| Sess X Orient               | 5  | 4,651.43   | 930.29    | .59  |     |
| Sess X Order                | 5  | 3,707.60   | 741.52    | .47  |     |
| Sess X Sex                  | 5  | 11,223.60  | 2,244.72  | 1.44 |     |
| Sess X Orient X Sex         | 5  | 3,927.09   | 785.42    | .50  |     |
| Sess X Orient X Order       | 5  | 5,578.67   | 1,115.73  | .71  |     |
| Sess X Sex X Order          | 5  | 1,709.98   | 341.99    | .22  |     |
| Orient X Sex X Order        | 1  | 52.51      | 52.51     | .00  |     |
| Orient X Sex X Order X Sess | 5  | 12,831.38  | 2,566.28  | 1.64 |     |
| Within                      | 8  | 97,239.94  | 12,154.99 |      |     |
| Error                       | 40 | 62,575.56  | 1,564.39  |      |     |
| Total                       | 95 | 278,942.74 |           |      |     |

Table 19

## Analysis of Variance for Agreement

| Source                      | df | SS        | MS        | F    | P   |
|-----------------------------|----|-----------|-----------|------|-----|
| Orientation                 | 1  | 2.04      | 2.04      | .00  |     |
| Sex                         | 1  | 3,408.17  | 3,408.17  | 1.61 |     |
| Order                       | 1  | 6,048.38  | 6,048.38  | 2.85 |     |
| Sessions                    | 5  | 4,634.59  | 926.92    | 2.22 |     |
| Orient X Sex                | 1  | 2,992.67  | 2,992.67  | 1.41 |     |
| Orient X Order              | 1  | 925.04    | 925.04    | .44  |     |
| Sex X Order                 | 1  | 1,006.67  | 1,006.67  | .50  |     |
| Sess X Orient               | 5  | 1,656.33  | 331.27    | .79  |     |
| Sess X Order                | 5  | 2,688.74  | 537.75    | 1.29 |     |
| Sess X Sex                  | 5  | 1,619.45  | 323.89    | .77  |     |
| Sess X Orient X Sex         | 5  | 1,923.20  | 384.64    | .92  |     |
| Sess X Orient X Order       | 5  | 3,778.83  | 755.77    | 1.81 |     |
| Sess X Sex X Order          | 5  | 703.51    | 140.70    | .34  |     |
| Orient X Sex X Order        | 1  | 20,886.00 | 20,886.00 | 9.84 | .05 |
| Orient X Sex X Order X Sess | 5  | 355.34    | 71.07     | .17  |     |
| Within                      | 8  | 16,985.00 | 2,123.13  |      |     |
| Error                       | 40 | 16,738.00 | 418.45    |      |     |
| Total                       | 95 | 86,411.96 |           |      |     |

Table 20

## Analysis of Variance for Giving Opinion

| Source                      | df | SS         | MS        | F    | P   |
|-----------------------------|----|------------|-----------|------|-----|
| Orientation                 | 1  | 6,851.26   | 6,851.26  | .44  |     |
| Sex                         | 1  | 3,991.26   | 3,991.26  | .26  |     |
| Sessions                    | 5  | 62,097.18  | 12,419.44 | 7.18 | .01 |
| Order                       | 1  | 43,818.76  | 43,818.76 | 2.82 |     |
| Orient X Sex                | 1  | 7,975.26   | 7,975.26  | .51  |     |
| Orient X Order              | 1  | 5,002.59   | 5,002.59  | .32  |     |
| Sex X Order                 | 1  | 243.84     | 243.84    | .02  |     |
| Sess X Orient               | 5  | 6,228.66   | 1,245.73  | .72  |     |
| Sess X Order                | 5  | 17,816.66  | 3,563.33  | 2.06 |     |
| Sess X Sex                  | 5  | 14,003.36  | 2,800.67  | 1.62 |     |
| Sess X Orient X Sex         | 5  | 10,577.67  | 2,115.53  | 1.22 |     |
| Sess X Orient X Order       | 5  | 17,433.16  | 3,486.63  | 2.02 |     |
| Sess X Sex X Order          | 5  | 2,526.85   | 505.37    | .29  |     |
| Orient X Sex X Order        | 1  | 1,512.10   | 1,512.10  | .10  |     |
| Orient X Sex X Order X Sess | 5  | 8,313.98   | 1,662.80  | .96  |     |
| Within                      | 8  | 124,281.26 | 15,535.16 |      |     |
| Error                       | 40 | 69,203.24  | 1,730.08  |      |     |
| Total                       | 95 | 396,874.50 |           |      |     |

Table 21  
Analysis of Variance for Giving Orientation

| Source                      | df | SS        | MS       | F    | P |
|-----------------------------|----|-----------|----------|------|---|
| Orientation                 | 1  | 35.04     | 35.04    | .01  |   |
| Sex                         | 1  | 2,053.00  | 2,053.00 | .76  |   |
| Order                       | 1  | 2,166.00  | 2,166.00 | .80  |   |
| Sessions                    | 5  | 2,882.21  | 576.44   | .95  |   |
| Orient X Sex                | 1  | 294.00    | 294.00   | .11  |   |
| Orient X Order              | 1  | 2,521.50  | 1,521.50 | .93  |   |
| Sex X Order                 | 1  | 3,384.38  | 3,383.38 | 1.25 |   |
| Sess X Orient               | 5  | 5,179.96  | 1,035.99 | 1.71 |   |
| Sess X Order                | 5  | 5,247.00  | 1,049.40 | 1.73 |   |
| Sess X Sex                  | 5  | 2,922.25  | 584.45   | .96  |   |
| Sess X Orient X Sex         | 5  | 1,202.49  | 240.50   | .40  |   |
| Sess X Orient X Order       | 5  | 3,273.74  | 654.75   | 1.08 |   |
| Sess X Sex X Order          | 5  | 1,893.61  | 378.72   | .62  |   |
| Orient X Sex X Order        | 1  | 532.04    | 532.04   | .20  |   |
| Orient X Sex X Order X Sess | 5  | 1,563.74  | 312.75   | .51  |   |
| Within                      | 8  | 21,683.01 | 2,710.38 |      |   |
| Error                       | 40 | 24,298.99 | 607.47   |      |   |
| Total                       | 95 | 81,132.96 |          |      |   |

Table 22  
Analysis of Variance for Disagreement

| Source                      | df | SS       | MS       | F    | P   |
|-----------------------------|----|----------|----------|------|-----|
| Orientation                 | 1  | 1,190.04 | 1,190.04 | 4.51 |     |
| Sex                         | 1  | 96.00    | 96.00    | .36  |     |
| Order                       | 1  | 140.17   | 140.17   | .53  |     |
| Sessions                    | 5  | 212.71   | 42.54    | .91  |     |
| Orient X Sex                | 1  | 146.09   | 146.09   | .55  |     |
| Orient X Order              | 1  | 273.38   | 273.38   | 1.04 |     |
| Sex X Order                 | 1  | 30.83    | 30.83    | .12  |     |
| Sessions X Orient           | 5  | 314.83   | 62.97    | 1.35 |     |
| Sess X Order                | 5  | 52.33    | 10.47    | .23  |     |
| Sess X Sex                  | 5  | 96.37    | 19.27    | .41  |     |
| Sess X Orient X Sex         | 5  | 171.78   | 34.36    | .74  |     |
| Sess X Orient X Order       | 5  | 351.24   | 70.25    | 1.51 |     |
| Sess X Sex X Order          | 5  | 76.79    | 15.36    | .33  |     |
| Orient X Sex X Order        | 1  | 5.03     | 5.03     | .02  |     |
| Orient X Sex X Order X Sess | 5  | 734.29   | 146.86   | 3.16 | .05 |
| Within                      | 8  | 2,111.01 | 263.88   |      |     |
| Error                       | 40 | 1,860.99 | 46.52    |      |     |
| Total                       | 95 | 7,863.83 |          |      |     |

## APPENDIX B

### SIT INVENTORY

Each of the 27 statements below have three completions. Indicate the one with which you agree the most by placing a plus sign (+) in the blank to the left of the completion; indicate the one with which you agree the least by placing a minus sign (-) in the blank to the left of the completion.

- |                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                  |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>1. One of the greatest satisfactions in life is:</p> <p>___ Recognition for your efforts</p> <p>___ The feeling of a job well done</p> <p>___ The fun of being with friends</p>                                                                                                | <p>5. I like my friends to:</p> <p>___ Want to help others whenever possible</p> <p>___ Be loyal at all times</p> <p>___ Be intelligent and interested in a number of things</p> |
| <p>2. If I played football, I would like to be:</p> <p>___ The coach whose planning pays off in victory</p> <p>___ The star quarterback</p> <p>___ Elected captain of the team</p>                                                                                                | <p>6. My best friends:</p> <p>___ Are easy to get along with</p> <p>___ Know more than I do</p> <p>___ Are loyal to me</p>                                                       |
| <p>3. The best instructors are those who:</p> <p>___ Give you individual help and seem interested in you</p> <p>___ Make a field of study interesting, so you want to know more about it</p> <p>___ Make the class a friendly group where you feel free to express an opinion</p> | <p>7. I would like to be known as:</p> <p>___ A successful person</p> <p>___ An efficient person</p> <p>___ A friendly person</p>                                                |
| <p>4. The worst instructors are those who:</p> <p>___ Are sarcastic and seem to take a dislike to certain people</p> <p>___ Make everyone compete with each other</p> <p>___ Simply can't get an idea across and don't even seem interested in their subject</p>                  | <p>8. If I had my choice, I would like to be:</p> <p>___ A research scientist</p> <p>___ A good salesman</p> <p>___ A test pilot</p>                                             |

9. As a kid, I most enjoyed:
  - ☐ Just being with the gang
  - ☐ The feeling of accomplishment I had after I did something well
  - ☐ Being praised for some achievement
10. Schools could do better jobs, if they:
  - ☐ Taught children to follow through on a job
  - ☐ Encouraged independence and ability in children
  - ☐ Put less emphasis on getting along with others
11. The trouble with an organization like the Army or Navy is:
  - ☐ The rank system is undemocratic
  - ☐ The individual gets lost in the organization
  - ☐ You can never get anything done with all the red tape
12. If I had more time, I would like to:
  - ☐ Make more friends
  - ☐ Work at my hobby or be learning something new and interesting
  - ☐ Just take it easy, without any pressure
13. I think I do my best when:
  - ☐ I work with a group of people who are congenial
  - ☐ I have a job that is in my line
  - ☐ My efforts are rewarded
14. What I like best is:
  - ☐ Being appreciated by others
  - ☐ Being satisfied personally with my performance
  - ☐ Being with friends with whom I can have a good time
15. I would rather that a story about me appear in the newspaper:
  - ☐ Describing a project I had completed
  - ☐ Citing the value of my actions
  - ☐ Announcing my election to a fraternal organization
16. I learn best when my instructor:
  - ☐ Provides me with individual attention
  - ☐ Stimulates me into working harder by arousing my curiosity
  - ☐ Makes it easy to discuss matters with him and with others
17. Nothing is worse than:
  - ☐ Having your self-esteem damaged
  - ☐ Failure on an important task
  - ☐ Losing your friends
18. I like:
  - ☐ Personal praise
  - ☐ Cooperative effort
  - ☐ Wisdom
19. I am disturbed considerably by:
  - ☐ Hostile arguments
  - ☐ Rigidity and refusal to see the value of new ways
  - ☐ Persons who degrade themselves
20. I would rather:
  - ☐ Be accepted as a friend by others
  - ☐ Help others to complete a mutual task
  - ☐ Be admired by others

21. I like a leader who:  
\_\_\_ Gets the job done  
\_\_\_ Makes himself respected  
   by his following  
\_\_\_ Makes himself easy to  
   talk to
22. I would rather:  
\_\_\_ Have a committee meeting  
   to decide on what the  
   problem is  
\_\_\_ Work out by myself the  
   correct solution to the  
   problem  
\_\_\_ Be valued by my boss
23. Which type of book would you  
   rather read:  
\_\_\_ A book on getting along  
   with people  
\_\_\_ An historical romance  
\_\_\_ A how-to-do-it book
24. Which would you prefer:  
\_\_\_ Teach pupils how to play  
   the violin  
\_\_\_ Play violin solos in  
   concerts  
\_\_\_ Write violin concertos
25. Which leisure-time activity  
   is more satisfying to you:  
\_\_\_ Watching westerns on TV  
\_\_\_ Chatting with acquaint-  
   ances  
\_\_\_ Keeping busy with inter-  
   esting hobbies
26. Which would you prefer,  
   assuming the same amount of  
   money was involved:  
\_\_\_ Plan a successful contest  
\_\_\_ Win a contest  
\_\_\_ Advertise the contest and  
   get others to participate
27. Which is the most important  
   to you:  
\_\_\_ To know what you want to  
   do  
\_\_\_ To know how to do what you  
   want  
\_\_\_ To know how to help others  
   to do what they want

## APPENDIX C

### QUESTIONNAIRE

1. Please rank the group members according to the quality of ideas contributed to the group discussion. Assign rank 1 to the person who contributed the best ideas, rank 2 to the next best . . . and the rank of 5 to the person who contributed the least good ideas. Include yourself.

| <u>Members</u> | <u>Rank</u> |
|----------------|-------------|
| A              | _____       |
| B              | _____       |
| C              | _____       |
| D              | _____       |
| E              | _____       |

2. Please rank the group members according to their contribution in guiding the group through the discussion. Include yourself.

| <u>Members</u> | <u>Rank</u> |
|----------------|-------------|
| A              | _____       |
| B              | _____       |
| C              | _____       |
| D              | _____       |
| E              | _____       |

3. Please rank the group members according to the amount of participation in the group discussion. Give rank 1 to the person who participated the most, rank 2 for the next most participation, rank 5 for the least participation, etc. Include yourself.

| <u>Members</u> | <u>Rank</u> |
|----------------|-------------|
| A              | _____       |
| B              | _____       |
| C              | _____       |
| D              | _____       |
| E              | _____       |

4. Fill in the blanks with the letter of the person of your choice.

- a. I interacted with \_\_\_\_\_ most; \_\_\_\_\_ least.  
 b. I liked \_\_\_\_\_ most; \_\_\_\_\_ least.  
 c. I agreed with \_\_\_\_\_ most; \_\_\_\_\_ least.  
 d. The major spokesman (leader) for the group was \_\_\_\_\_.

5. Rate your satisfaction with the role you played in the group discussion by checking the appropriate description.

|                                 |              |                                    |
|---------------------------------|--------------|------------------------------------|
| _____Very strongly<br>satisfied |              | _____Slightly<br>dissatisfied      |
| _____Strongly<br>satisfied      | _____Neutral | _____Strongly<br>dissatisfied      |
| _____Slightly<br>satisfied      |              | _____Very strongly<br>dissatisfied |

6. Rate your satisfaction with the decisions that were made in the group.

|                                 |              |                                    |
|---------------------------------|--------------|------------------------------------|
| _____Very strongly<br>satisfied |              | _____Slightly<br>dissatisfied      |
| _____Strongly<br>satisfied      | _____Neutral | _____Strongly<br>dissatisfied      |
| _____Slightly<br>satisfied      |              | _____Very strongly<br>dissatisfied |

## APPENDIX D

### TASK

In May, 1956, C. A. Vance, a graduating student at the Harvard Business School, had an interview with M. N. Northey, personnel manager, in connection with a possible position with the Liddick Company, Columbus, Ohio. The results of the interview were favorable, and Mr. Vance was asked to come to the head office of the company at a later date for further interviews. He was subsequently hired.

The company is one of the largest food processors in the country. Its products were nationally advertised and well established. When Vance went to the head office, he knew the following facts about the company. The company's profit reached a peak in 1951 but in 1952 had fallen more than 50%. Since that time recovery in earnings had been steady, but total profits remained below the 1951 top. At the present time the company faces the problem not only of maintaining and improving its merchandising efforts on its several products, but also of improving its production and purchasing methods. Its professed policy of "no speculation" in the materials used in production is not regularly followed.

Vance's father, a wholesale grocer, had long been a customer of the Liddick Company. He was intimately acquainted with the company's local representative and its divisional sales manager in the territory where he did business. He had met the company's sales manager and two or three other executives from the head office on several occasions.

In June, 1956, at the end of the Business School year, Vance was interviewed again, this time by H. S. Wellington, top executive, and A. B. Randles, general manager, who proposed that he join the company as a salesman, study their merchandising methods, and later be returned to the head office to work in merchandising. Vance accepted the position and was ordered into the field sales division. He worked as a salesman calling on the retail grocery trade until October 9, 1956. On that date he received a telegram ordering him to report to Randles at the head office the next morning.

At the head office Randles told him that they were contemplating an addition to their purchasing department and were thinking of assigning some person to make a study of the principal commodities purchased by the Liddick Company, to analyze the prices and trends of the prices, and to make recommendations to Randles and Fairing, the chief purchasing agent. Randles went into considerable detail as to how he wanted the job done. It appeared to Vance that the company had been doing its purchasing on a very haphazard basis. Randles told him that they wanted to make their purchasing more scientific and to coordinate their usage, storage, and purchasing. Randles made it plain that he did not expect any tangible results for five or six months,

because he realized the large amount of research and preliminary work that Vance would have to do before producing worth-while information.

Vance was assigned a desk in the middle of the stenographic department, since the offices were very crowded. Fairing, the chief purchasing agent, instructed him to begin work on rice. He immediately began collecting files on the rice industry and the factors affecting grain prices. Correspondence was begun with the Department of Agriculture, various state agriculture departments, trade associations, the Chicago Board of Trade, and other institutions.

While this material was coming in and being assembled, Vance was setting up a commodities library in an attempt to broaden his knowledge of the commodities purchased. In this he was assisted by some of his former professors. Furthermore he induced Fairing to join the National Association of Purchasing Agents, so that the Liddick Company might receive the benefit of that Association's work. He had to use considerable persuasion to accomplish this result.

There was so much to be done and Vance was so eager to get his department under way that each afternoon he dictated from 10-15 letters, besides reports and memoranda. Through November and December he continued to assemble and complete the rice report, which included statistical studies of prices, yields, crops, and a comprehensive analysis of the factors affecting prices, together with a general routine for buying and handling the rice on the most economical basis. He also kept posted on the prices of all the commodities bought by the company and reported them to Fairing.

When Vance reported to work after the Christmas holidays, he was called into Fairing's office and bluntly told that "there is no statistical department." He was told that the company had decided that his work was not so important to the company as having an experienced grain buyer, who could keep posted personally on corn and wheat and act directly on his own authority, thereby lessening Fairing's work. When Vance inquired about whether or not his work had been satisfactory, he was assured that his work was done as instructed and his dismissal was only because the budget of the purchasing department would not permit his retention. At this point Vance asked for a letter from Fairing stating that his dismissal from the company was not due to unsatisfactory work but to the changed requirements of the purchasing department. Fairing agreed to write such a letter and promised Vance would receive it in a day or two.

From the time Vance took the job to the time of his dismissal, he was given no indication that his work was in any way unsatisfactory, except on two occasions. Both of these arose when he was warned by Fairing that he was giving the stenographic department too much work. Fairing stated that Vance was writing so many letters that another stenographer would have to be hired, but the budget would not permit it. The second time Fairing warned him about too much work being given to the stenographers, Vance was told

that he should not have written individual letters to his Business School professors, but that he should have written one letter, instead, to one of them, and merely mention the others in the letter.

On Friday, December 30, Vance received a copy of a form mailed to the State Unemployment Commission, signed by the office manager, and giving the reason for his dismissal as "Work Unsatisfactory." Vance immediately telephoned Fairing and asked him why he had received such a paper, when he had previously been informed otherwise. Fairing appeared surprised that Vance had received it and said that it was a mistake and that he would go to the office manager to correct the error, and would call back immediately. Fairing did not call back.

On January 3, Vance called Fairing and stated that he had not received the letter he had requested. Fairing explained that he had not had time to dictate it, and that Vance would not receive it until it was passed by the management. Vance asked Fairing why he had said that his work was satisfactory and then repudiated the statement. When Fairing made no reply, Vance asked him directly what particulars about his work was unsatisfactory. Fairing replied that Vance had "caused trouble in the office" and that his work had been "inaccurate." Fairing then stated, "Some people around here say that you cost the Liddick Company \$10,000." In answer to why the charge had been made, Fairing replied that Vance had written letters to the rice millers and associations seeking information on the rice market in general, and this had caused the millers to become alarmed, with the result they raised the price of rice, believing the Liddick Company was in the market. Vance replied by indicating that the Liddick Company buys less than 1% of the total U.S. production of rice. Also he reminded Fairing that these letters had gone across his desk before they were mailed.

The next day Vance called Northey at his office and told him about the letter that Fairing had promised and had not written. Northey said that he would call back in a few minutes. When he called back in about 30 minutes, he said a letter could not be written, but if Vance wanted employment, he could ask the prospective employee to write him for information about Vance. Before the interview was terminated, Northey volunteered to write Vance's father and tell him the reasons for his dismissal. He has not yet written the letter.

Vance wrote the dean of the Business School and requested him to write the Liddick Company to inquire as to the reasons for his dismissal. Vance does not believe that the real reasons have as yet appeared.

## INSTRUCTIONS

Your task as a group will be to study and discuss a human relations problem in a business situation, to make a comprehensive report concerning the matter, and to formulate recommendations for action. The problem centers around a recent Harvard Business School graduate, C. A. Vance, who was abruptly dismissed from his job with a large food processing company. You are to place yourselves in the role of a state Fair Employment Practices Commission who has been asked to investigate the incident, and report your findings and recommendations. Included in the report should be factors such as the relationships among the company board members, the relationships between Vance and his superiors, his attitude toward his work, the quality of his work, mistakes he may have made, and the reasons for his dismissal. The report should include any and all factors you feel have a bearing on Vance's experience with the company and his subsequent dismissal. An investigator has been sent from the FEPC to the company in order to collect more relevant information concerning the case, and to send reports back to the FEPC. The information in these reports will be made available to you during several of the sessions. Your final report will be evaluated according to the number of relevant factors considered, your realism and imagination in dealing with them, and the clarity and cogency of expression.

You will meet twice a week for four weeks, making a total of eight sessions. You are to take the entire time to discuss the problem and make your report. There will be no other problems to discuss. You will have 45 minutes per session for discussion. Place your names on the problem sheet so you can get the same one back each session. This is your sheet and you may take notes on it if you desire. Additional scratch paper will also be available. At each chair around the table you will find a card with a letter on it. The letter is placed there for purposes of identification, so please sit at the same place each session.

After you have read the instructions, you may begin reading the problem. If you have any questions, you may ask them after everyone has read the problem. No questions will be answered about group procedure, and no questions will be answered after discussion has begun.

## ADDITIONAL INFORMATION

## (Personality Descriptions)

Within the last few years A. B. Randles had been hired as general manager. Randles was formerly connected with a management engineering firm and in that capacity had advised the Liddick Company from time to time. He has held this position for five years. Within the past five years the company has been passing through several upheavals in its personnel. Randles has been making numerous changes in the higher personnel since his appointment as general manager, and most of these changes have been to the advantage of the company. At the present time, among his other duties, he is sales manager. He has refused to delegate any responsibilities in the running of the company and, as a result, is taxing himself with the entire burden of operations. He realizes the need for delegating responsibilities but finds it extremely difficult to choose men who will be acceptable not only to himself but also to Wellington. Consequently, no one in the company can make a move in any direction without first selling his idea to Randles and Wellington.

Mr. H. S. Wellington owns the controlling share of the business. In the past he had made most of the decisions that affected the business in any important way. Wellington built up the company by clever and unusual merchandising and really ran the entire business himself. It was this consistently good merchandising program that has enabled the organization to grow to its present size. As two of the older employees explained, "We made money despite our mistakes." In fact the company made a fortune for Wellington. Wellington insists that all activities of the company be highly organized and rigidly controlled. However, he is now approaching the age of retirement and has been taking steps to turn over to other hands the active management of the company.

## (Personality Descriptions)

M. N. Northey holds the title of personnel manager. He is in charge of all personnel, both sales and production. You will recall him as the Liddick agent who interviewed Vance at the Business School. With good reason, Northey is very unpopular with all but two of the higher officials, but he has managed to establish himself in H. S. Wellington's confidence. He is described as a little shy and slow in getting to know people. He is regarded as "hard-boiled" and one who demands everything be done to perfection.

The purchasing department includes Fairing, chief purchasing agent, who buys grains and supervises all purchases; F. E. Dewick, who buys paper and advertising material; D. C. Croft, who is responsible for the purchase of machinery, oils, and greases; and P. O. Berry, who purchases office supplies and miscellaneous items. The purchases of commodities other than the foregoing is split up among Fairing, Dewick, and Croft. This is the entire purchasing department personnel, and they perform the complete purchasing function as best they can. For his sources of information, Fairing depends solely upon brokers' advice, the Chicago Tribune, and the Chicago Journal of Commerce. The company receives no government reports of any nature. The purchasing library consists of several books and catalogues on machinery purchases. Vance reports that he discovered Fairing to be a man who did not understand what he (Vance) was talking about at least half of the time. Fairing seems completely ignorant of the commonest statistical terms and it was necessary for Vance to phrase reports to him very carefully so that he could understand them at all.

## (Incidents)

During his conversation on the telephone with Northey following his dismissal, Vance asked Northey if the Liddick Company had not made a mistake in its survey of what his assignment was to be since in a short time the officials had discovered that an experienced grain buyer was more urgently needed than Vance was. Northey replied, "Oh no. Our mistake was in hiring you at all." Evidently before Northey had called Vance back, Fairing had given him a great deal of information concerning Vance.

Vance made an appointment with Northey for the following week to discuss the reasons for his dismissal. Northey then explained that one reason was that Vance was disliked by the workers in the department. Vance felt that this was so far-fetched that it was laughable. He felt that everyone was his friend and indicated that everyone had shown his friendship in many ways, by invitations for fishing and hunting trips, visits to their homes, and an expensive wedding gift from the office force when he was married. Another reason mentioned was that Vance had been "indiscreet." Simply that, with no explanation of his indiscretion. Northey also mentioned a report that Vance had not been courteous to the grocery trade when he called on members. Vance thought he was a little late with that criticism since he had not been on the road for nearly three months. He felt that the last reason had as little basis as the first.

## (Incidents)

On the day of his dismissal, December 28, Vance went to Fairing's office to find if anyone knew of his dismissal. Fairing answered plainly, "No." Vance then asked if he could work on at the office until the end of the week to finish up the last section of the rice report, and to outline the procedure to be followed in handling the material coming in each day from various sources of information. Fairing became very angry at this request and declared, "No, I have already told the people in the department; it would be embarrassing, and I just don't want you around here." He made this last statement with considerable vehemence.

Vance wrote the Dean of the Business School and ventured an opinion as to the cause of his dismissal. He thought either Fairing, finally realizing that Vance's rice reports were correct and that he could not buy rice as cheaply as he had expected, decided to get rid of Vance as quickly as he could before he had a chance to say, "I told you so." Or Wellington, having decided that he did not need a statistical department, gave orders for his dismissal. It has been learned that F. E. Dewick, a member of the purchasing department, said to Vance as he left the office the last day of work, "You know, old man Wellington never was sold on the idea of your coming here for this job, and neither was Fairing. It was Randles that got you here, but he didn't keep Wellington sold on the idea, and Fairing was squawking about you all the time, saying he wanted a corn and wheat buyer instead."

## (Employer-Employee Relations)

While the company has been aggressive, well-organized and efficient, and while its earnings have been high in years past, a significant unnecessary expense of the company has been the excessively high employee turnover. Repeatedly employees have been discharged without any compensation for their employment. Top management is not favorable toward an employee attitude survey; exit interviews have been held with disgruntled employees but they yielded little results. Despite large gifts in the form of a stadium, swimming pool, and library, the people of this town heartily dislike the company, principally because of the shabby treatment it accords its employees. This is not their attitude towards the Steel Machinery Company, which also has a large plant in the same city.

There are many conferences and "pep" meetings and scarcely a week goes by that an employee does not receive a personal visit from some top official. These contacts amount to pressure for increasing volume and injunctions--progressively urgent--to keep expenses down. Any new plans or changes in machinery or procedure are usually kept secret until the details are worked out by top management. Only about one-third of the foremen are involved in the development of any new plans. Plans are announced and put into effect on the first day of the month without knowledge or participation of the rest of the foremen, the group leaders, or the employees who are involved themselves. Shifts from one department to another are frequent. Sometimes when an employee returns after an absence, whether excused or unexcused, he loses claim to whatever machine he had been operating.

## (Employer-Employee Relations)

The plant does not have a suggestion system nor does it seem that the climate, in terms of the management development and advanced management thinking, was right for inaugurating a suggestion system. There is no plant newspaper and very few communications. An employee attitude survey had been discussed but was discarded as a device which would mean coddling the employees, and the outlook to the top management was that this was too paternalistic. There was no counseling program for employees, either for the purpose of helping them to adjust to their social, family, and work situations, or for general job counseling and guidance. Here it would seem that these approaches would not work very well because of serious inadequacy, on the part of middle and top management, with respect to their appreciation of the value of these approaches or their knowledge of how to use them.

It is also revealed through extensive interviews that there was a strong management and production orientation on the part of foremen, and that the intensity of this orientation precludes a reasonable amount of employee orientation. In other words, the foremen were looking toward management, attempting to satisfy management almost wholly by getting out a great deal of production, rather than looking toward the needs, desires, and aspirations of workers.

With regard to formal work incentives, the company does operate a Retirement Annuity Plan, to which both the company and its employees contribute; also, a Management Profit-Sharing Plan. A little over a third of the employees participate annually in the profit-sharing plan. The company has guaranteed certain overtime and holiday pay privileges, one week's vacation with pay for employees of one to five years service and departmental seniority.

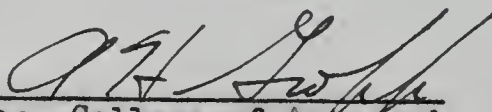
## BIOGRAPHICAL SKETCH

William T. Penrod, Jr. was born September 10, 1929, at Carbondale, Illinois. At the age of three he moved to Miami, Florida, where he attended school, graduating from Miami Senior High School in June, 1947. In May, 1951, he received the degree of Bachelor of Arts from Carson-Newman College in Jefferson City, Tennessee. From 1951 until 1955 Mr. Penrod attended the Southern Baptist Theological Seminary in Louisville, Kentucky, where he received the degrees Bachelor of Divinity and Master of Theology. For a period of eighteen months he was pastor of a Baptist church in western Kentucky. In January, 1957, he entered the University of Miami, Florida, and received the degree Master of Science in June, 1959. From September, 1959, until the present time he has pursued work toward the degree Doctor of Philosophy.

William T. Penrod, Jr. is married to the former Marian Penuel and is the father of three children. He is a member of Sigma Xi, a scientific honorary society.

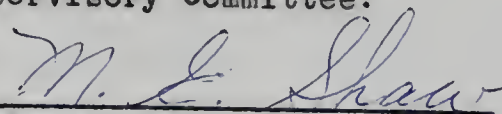
This dissertation was prepared under the direction of the chairman of the candidate's supervisory committee and has been approved by all members of that committee. It was submitted to the Dean of the College of Arts and Sciences and to the Graduate Council, and was approved as partial fulfillment of the requirements for the degree of Doctor of Philosophy.

June 11, 1962

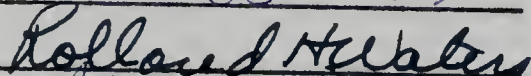
  
Dean, College of Arts and  
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Dean, Graduate School

Supervisory Committee:

  
Chairman









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